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PERSPECTIVES

ON LABOUR AND INCOME

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- FIGHTING THE ODDS
- HEALTH CARE PROFESSIONALS
- THE LABOUR MARKET IN 2003
- RETIREMENT PLAN AWARENESS
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- MORE SENIORS AT WORK
- THE NEAR-RETIREMENT RATE



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Katherine Marshall and Harold Wynne

Gambling has become a national pastime in Canada and continues to expand. Three-quarters of adult Canadians spent money on some form of gambling in 2002, and the majority did so without problems. However, 1 in 20 people in the adult population were, or had the potential to become, problem gamblers—susceptible to financial or social problems, anxiety or depression, or dependence on alcohol.

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Diane Galarneau

Human resources are an important concern for the health care system, and the aging population poses a double challenge as caseloads increase and health workers in the baby boom generation begin retiring. Characteristics and earnings of health workers—professionals, technical personnel, and support personnel—are examined using the 1991 and 2001 censuses. Nurses and doctors are looked at in more detail.

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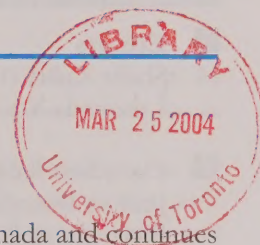
Geoff Bowlby

Over the first eight months of 2003, employment growth was minimal. However, during the last four months, employment surged ahead sufficiently to salvage a modest gain for the year.

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René Morissette and Xuelin Zhang

Many employers offer registered pension plans to their employees, but group RRSPs are becoming more common. A look at how well full-time permanent employees in the private sector in 2001 understood their retirement pension plan coverage.



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ON LABOUR AND INCOME

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Doreen Duchesne

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- p preliminary
- r revised
- x confidential
- E use with caution
- F too unreliable to be published

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Highlights

In this issue

■ Fighting the odds

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- Three-quarters of Canadians 15 and over (18.9 million) gambled in 2002. According to the Problem Severity Gambling Index, the majority of these gamblers (93.7%) did so without any problems, while the remainder exhibited at-risk (5.7%) or problem (0.6%) gambling behaviour.
- Buying lottery tickets was the most popular form of gambling (65.0% participation rate). Those who bought tickets as one of their gambling activities were the least likely to be at-risk or problem players (6.5%). Although playing video lottery terminals was less common (6.1% participation rate), it was the most addictive with 25.6% of players falling into the at-risk or problem categories.
- Those significantly more likely to be at risk or to have a gambling problem included men (7.8%), Aboriginal persons (18.5%), those with less education (7.6%), and weekly (14.3%) or daily (30.3%) gamblers.
- Compared with non-problem gamblers, those with a problem had significantly higher rates of alcohol dependence (15% versus 2%), psychological distress (29% versus 9%), family problems due to gambling (49% versus 0%), and financial problems due to gambling (70% versus 0%).
- Of the 85% of problem gamblers who recognized they had a problem, over half said they had tried to stop gambling in the past year, but were unable to do so.
- One-quarter of problem gamblers reported suffering major clinical depression at some point in their life, and one-fifth had contemplated suicide during the previous year.

■ Health care professionals

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- Professionals made up 57% of all workers in the health sector in 2001. The majority (63%) were nurses, with physicians—general practitioners and specialists—far behind at 14%.
- Full-year, full-time registered nurses had the largest gain in median income among professionals (8.0%). Because of their large number, this increase was a major factor in the 8.4% rise in the median income of all health professionals between 1990 and 2000. Licensed practical nurses had a modest 2.7% increase.
- General practitioners and specialists are among the oldest professionals, because of a decline of enrolment in faculties of medicine and an increase in the number of years of postdoctoral study, as family medicine loses ground to specialized medicine. Also, physicians retire relatively late.
- Between 1991 and 2001, women accounted for most (73%) of the increase in the physician workforce. This was particularly true for general practitioners, where women accounted for virtually all of the increase (98%).
- The median annual earnings of women specialists working full year, full time were 44% less than the earnings of their male counterparts. While the gap was somewhat smaller for general practitioners, women still earned 20% less than men.
- From 1990 to 2000, health workers saw their median annual earnings rise twice as much as those of other workers: 6.4% compared with 3.1%. Professionals stood out with the largest increase (15.1%), with much smaller gains for support personnel (7.9%).

■ The labour market in 2003 ... p. 31

- Employment growth was slow for most of 2003, but soared in the final four months. The unemployment rate averaged 7.6%, down marginally from 2002.
- Just over 15.7 million people were employed in 2003, up 334,000 (2.2%) from 2002. At 62.4% of the working-age population, this was the highest annual employment rate on record. Much of the gain was in full-time work.
- The continued strength of the housing sector contributed to a 5.5% surge in construction employment, as well as a 4.5% increase in employment in finance, insurance and real estate.
- Self-employment posted its second consecutive yearly gain. After falling 154,000 between 1999 and 2001, self-employment increased 37,000 in 2002 and another 67,000 in 2003.
- Employment in manufacturing fell 32,000 (or 1.4%), with the weakness concentrated in computer and electronic as well as transportation equipment.
- Although employment in public administration surged 37,000 in 2003, it remains well below its peak in 1993. In 1993, civil servants made up 6.7% of the workforce, compared with 5.2% in 2003.

■ Retirement plan awareness ... p. 37

- Many workers do not clearly understand their retirement plan coverage and, in particular, confuse RPPs and group RRSPs. Of those who reported having a group RRSP at their job, one in four worked in firms that did not offer one. Among those who reported having an RPP, one in six were in firms without one.
- Low seniority explains why young workers appear less informed about their retirement plans than their older counterparts. Almost 20% of employees with less than two years seniority who reported

having a retirement plan worked for firms reporting none. The corresponding proportion is at most 7% among employees with 10 or more years seniority.

- University graduates, unionized workers, workers in large establishments, and those employed in finance and insurance, and communication and other utilities appear to be better informed than other workers.
- Overall, 4% of full-time permanent employees in the private sector thought they had a retirement plan but didn't. Lack of understanding is more acute among recent immigrants. Their rate was 9%, twice as high as Canadian-born workers.

■ A C/QPP overview ... p. 45

- In July 2003, over four million people received \$1.9 billion in benefits. Retirement benefits accounted for 71% of CPP payouts, survivor benefits for 14%, and disability for 12%. The situation was similar for the QPP: 70% for retirement, 20% for survivor, and 9% for disability.
- In 2001, 91% of elderly families received C/QPP benefits, averaging one-sixth of their total income.
- In July 2003, the maximum retirement benefit was \$801.25. The average, however, was much lower: \$448.21 for the CPP and \$370.99 for the QPP.
- C/QPP benefits accounted for 16% of family income in 2001 compared with 10% in 1981, even as average income of recipient families grew by 17%.
- In 1981, 42% of all recipient families would have fallen into low income if not for their C/QPP benefits. By 2001, this proportion reached 85%.
- To support the fiscal viability of the plans, employee contribution rates increased from 1.8% of maximum pensionable earnings in 1986 to the 2003 level of 4.95%. Employers match these contributions, so total premiums equal 9.9% of maximum contributory earnings.

■ More seniors at work

... p. 55

- Over 300,000 Canadians aged 65 or more were employed in 2001, one in 12 persons in that age group. Those 65 to 69 accounted for well over half (57%); 70 to 74, 26%; and 75 or older, 17%.
- Although women made up the majority (56%) of the population 65 and over, most of the employed were men (68%), virtually unchanged from five years earlier.
- Between 1996 and 2001, the ranks of working seniors rose faster than their population, 20% compared with 11%. Also, working seniors have been getting older: 43.0% were 70 or older in 2001, compared with 40.5% in 1996.
- Working seniors are generally better educated: 1 in 5 with a university degree was employed in 2001, compared with only 1 in 20 with less than a grade 9 education. Also, working seniors were almost four times more likely than those 15 to 64 to be self-employed.
- In 1996, half of workers aged 65 and over were concentrated in 20 occupations; by 2001, this had increased to 25. Farming and retail trade were the most popular, but many seniors were also found in professional occupations, such as accounting, medicine, religion and law.
- The division of labour among today's seniors remains traditional. Some occupations, such as judges and ministers of religion, tend to be filled mainly by men; others, such as secretaries and babysitters, are taken mainly by women.
- The distribution of working seniors across the provinces and territories was generally similar to their population distribution, except in Quebec and

Alberta. Quebec accounted for 24% of Canadians 65 and over, but only 16% of workers that age; conversely, Alberta accounted for only 8% of the senior population, but 13% of its workforce.

■ What's new?

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How long do people live in low-income neighbourhoods?

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Fighting the odds

Katherine Marshall and Harold Wynne

OVER THE PAST DECADE the gambling industry has flourished. Canadians have steadily increased their wagering—from an estimated \$2.7 billion in 1992 to about \$11.3 billion in 2002 (Marshall 1996, 1998, 2003). While increased GDP, employment and government revenue¹ may be the upside of gambling, rising social and health consequences of problem gambling are the downside. Although most 6/49 players or casino visitors indulge purely for fun and entertainment (and the dream of a jackpot), the gambling behaviour of a small segment of the population will be problematic.

In the American Psychological Association's *Diagnostic and Statistical Manual IV*, pathological gambling is defined as an impulse control disorder. The Canadian Problem Gambling Index (CPGI), used to screen for problem gamblers in the general population, defines problem gambling as "gambling behaviour that creates negative consequences for the gambler, others in his or her social network, or the community" (Ferris and Wynne 2001, p. 2). These consequences can be as severe as bankruptcy, job loss, marital breakdown or suicide.

Cycle 1.2 of the Canadian Community Health Survey—Mental Health and Well-being (CCHS 1.2), offers first-time information on problem or pathological gambling across Canada. Gambling behaviour and socio-economic characteristics of non-problem, at-risk, and problem gamblers can now be examined. Issues associated with problem gambling, such as income, health, and social relations can also be explored (see *Data source and definitions*).

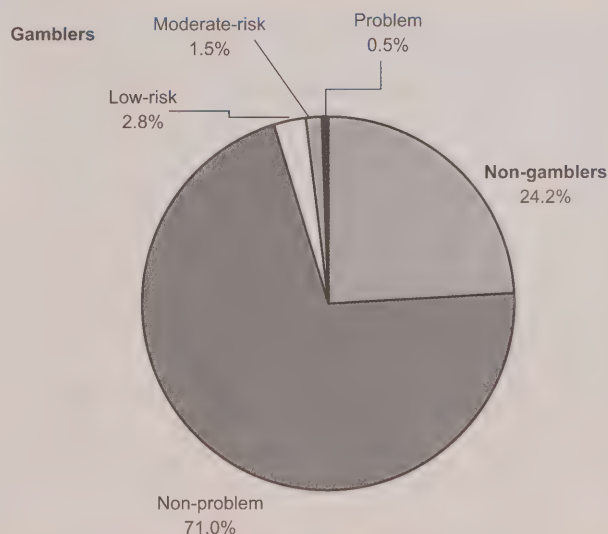
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Majority gamble, but minority at risk

Where there is gambling, there will be people with a problem.² Of the estimated 18.9 million Canadians who gambled in 2002, 17.7 million were non-problem gamblers, while 1.2 million (5% of the adult population) had the potential to become problem gamblers or were already (Chart A). By definition, problem gamblers have suffered adverse effects from their gambling behaviour.

According to the Problem Gambling Severity Index (PGSI), part of the CPGI, 700,000 gamblers were low-risk, 370,000 were moderate-risk, and 120,000 were problem gamblers. Low-risk gamblers scored between 1 and 2 on the PGSI, moderate-risk between 3 and 7, and problem gamblers 8 or more. Scores

Chart A: Gambling was a problem or potential problem for 5% of the adult population.



Source: Canadian Community Health Survey 1.2, 2002

Data source and definitions

The Canadian Community Health Survey (CCHS) provides regular and timely cross-sectional estimates of health determinants, health status, and health system utilization. The initial year (2000) and every odd year thereafter (from 2001) collects generic health information from 130,000 respondents. During the even years, the survey sample is smaller (roughly 30,000) and addresses a specialized topic. Cycle 1.2, on Mental Health and Well-Being, was held in 2002. Its main objective was to provide national and provincial estimates of major mental disorders and problems, and to illuminate the issues associated with disabilities and the need for and provision of health care. The survey contained questions on a wide range of disorders and problems, including a section on 'pathological gambling.'

The target population of the CCHS 1.2 excludes those living in the three territories, individuals living on reserves or crown land, residents of institutions, full-time members of the Armed Forces, and residents of some remote regions.

The **Problem Gambling Severity Index (PGSI)** is part of the Canadian Problem Gambling Index (CPGI), an instrument developed over a three-year period in the late 1990s by a group of researchers in response to an interprovincial task force on problem gambling. The CPGI is considered a more appropriate measure for the general population than two other well known clinical instruments: the South Oaks Gambling Screen and the American Psychological Association's medical diagnostic measure DSM-IV (Ferris and Wynne 2001). Based on numerous questions on gambling involvement, problem gambling behaviour, and adverse consequences (disruption of personal, family or professional life), the CPGI classifies respondents as non-gamblers, non-problem gamblers, low-risk gamblers, moderate-risk gamblers, or problem gamblers.

In a CPGI modification, respondents who seldom gambled in the previous year (less than five times) or who clearly stated that they were not gamblers were not asked the gambling severity questions. Also, gambling activities were regrouped into fewer categories than used in the original CPGI. The PGSI assesses gambling problems using a nine-item scale. Each item carries a score of 0 to 3, making the total index range from 0 to 27. All nine items refer to the past 12 months.

- How often have you bet more than you could really afford to lose?
- How often have you needed to gamble with larger amounts of money to get the same feeling of excitement?
- How often have you gone back another day to try to win back the money you lost?
- How often have you borrowed money or sold anything to get money to gamble?

- How often have you felt that you might have a problem with gambling?
- How often have people criticized your betting or told you that you had a gambling problem, regardless of whether or not you thought it was true?
- How often have you felt guilty about the way you gamble or what happens when you gamble?
- How often has your gambling caused you any health problems, including stress or anxiety?
- How often has your gambling caused any financial problems for you or your household?

Non-problem gamblers gamble infrequently (less than five times per year), declare themselves not gamblers, or score zero on the PGSI.

Low- or moderate-risk gamblers gamble more than five times a year and show some indication of problem gambling behaviour. Low-risk gamblers scored between 1 and 2 on the PGSI and have most likely not yet experienced any adverse consequences from gambling. Moderate-risk gamblers scored between 3 and 7 on the PGSI and may or may not have experienced adverse consequences.

Problem gamblers gamble more than five times a year, and the gambling behaviour creates negative consequences for them, others in their social network, or the community. Problem gamblers scored between 8 and 27 on the PGSI.

Alcohol dependence is measured by the responses to questions on alcohol use, behaviour, and attitudes towards drinking. The definition includes alcohol-related withdrawal, loss of control, or social or physical problems. The questions are based on an international instrument that provides diagnostic estimates for psychoactive substance use disorder.

Distress scale is a rating based on the responses to questions on psychological distress during the one-month period prior to the survey. This analysis used the K6-Distress Scale, whose definition and criteria are based on the *Diagnostic and Statistical Manual of Mental Disorders (DSM-III-R)* used by the American Psychiatric Association.

Major depression is a period of two weeks or more with persistent depressed mood and loss of interest or pleasure in normal activities, accompanied by symptoms such as decreased energy, changes in sleep and appetite, impaired concentration, and feelings of guilt, hopelessness, or suicidal thoughts. The definition and criteria are from the *Diagnostic and Statistical Manual of Mental Disorders* used by the American Psychiatric Association.

were based on a combination of gambling involvement, problem gambling behaviour, and adverse consequences.

No trend data exist on problem gambling rates, but research has shown that increased access to gambling contributes to an increase in the prevalence of gambling-related problems (Volberg 1994). Increased accessibility, poverty, low socio-economic status, and substance abuse have been linked with problem gambling.

Gambling continues to expand; three-quarters (76%) of people 15 and over spent money on some form of gambling in 2002—with 38% doing so at least once a week (Table 1).³

Gambling in its various forms

Buying lottery tickets was by far the most popular gambling activity (65% participation rate), followed by instant win tickets (36%), and going to a casino (22%).⁴ Many ticket buyers participated regularly—37% of lottery and 23% of instant win players on a weekly basis.

Table 1: Participation in gambling activities

	Population 15 and over	At least one activity	Lotteries	Instant win	Casinos	Bingo	VLTs not in casinos	Horse racing	Other*
Total ('000)	24,997	18,911	16,225	9,039	5,420	2,099	1,514	1,040	5,276
%	100	76	65	36	22	8	6	4	21
	'000					%			
Men	12,286	78	68	34	22	5	7	5	27
15 to 17	706	50	18	12	F	4 ^E	2 ^E	1 ^E	39
18 to 24	1,406	73	52	40	31	7	13	5	39
25 to 44	4,769	81	73	39	24	4	9	6	30
45 to 64	3,774	84	78	34	22	4	6	5	23
65 and over	1,632	74	65	28	19	5	3	4	15
Women	12,710	73	62	38	21	12	5	3	15
15 to 17	660	34	12	13	F	6 ^E	3 ^E	1 ^E	21
18 to 24	1,366	68	45	44	25	13	8	2 ^E	20
25 to 44	4,738	77	68	44	21	13	6	4	16
45 to 64	3,852	78	70	38	24	12	4	4	13
65 and over	2,095	70	59	29	20	12	3	3	11
Province									
Newfoundland and Labrador	439	75	64	36	6	13	12	1 ^E	23
Prince Edward Island	112	75	61	43	9	11	7	11	20
Nova Scotia	756	78	67	41	19	11	12	1 ^E	22
New Brunswick	608	76	65	40	11	13	10	2 ^E	21
Quebec	6,041	79	71	32	18	9	7	2	17
Ontario	9,656	75	64	38	26	8	2	6	22
Manitoba	865	74	63	30	29	11	21	5	23
Saskatchewan	759	76	64	36	25	9	15	2 ^E	25
Alberta	2,429	72	61	31	18	8	12	4	24
British Columbia	3,332	75	63	44	21	6	3	3	23
Gambling frequency**	18,911	100	100	100	100	100	100	100	100
1 to 7 times a week	7,271	38	37	23	3	21	11	5	15
1 to 3 times a month	4,374	23	23	26	8	17	18	6	18
1 to 11 times a year	7,266	38	40	51	88	62	71	89	68

Source: Canadian Community Health Survey 1.2, 2002

* Includes betting on cards outside casinos, Internet gambling, speculative investments or other forms of gambling.

** Of those who gambled in the specified activity.

Table 2: Personal characteristics and gambling behaviour

	Total gamblers	Non-problem	At-risk and problem gamblers			
			Total	At-risk		
				Low	Moderate	Problem
Total ('000)	18,887	17,699	1,188	697	373	118
%	100.0	93.7	6.3	3.7	2.0	0.6
	'000		%			
Men	9,610	100.0	92.2	7.8	4.4	2.6
Women	9,277	100.0	95.2	4.8*	2.9	1.4
			Years			
Average age**	44	45	40*	40	39	41
			%			
Personal income						
Less than \$20,000	6,392	100.0	93.3	6.7	3.9	2.0
\$20,000 or more	11,289	100.0	93.8	6.2	3.6	2.0
Level of education						
Less than postsecondary	9,689	100.0	92.4	7.6	4.5	2.4
Postsecondary	9,047	100.0	95.2	4.8*	2.8	1.5
Racial background						
Non-Aboriginal	18,593	100.0	93.8	6.2	3.7	1.9
Aboriginal	217	100.0	81.5	18.5*	7.2 ^E	8.3 ^E
Province						
Newfoundland and Labrador	330	100.0	93.7	6.3	3.7 ^E	1.9 ^E
Prince Edward Island	83	100.0	95.2	4.8 ^E	2.5 ^E	1.8 ^E
Nova Scotia	588	100.0	94.3	5.7	3.3	1.4 ^E
New Brunswick	463	100.0	94.7	5.3	3.2 ^E	1.5 ^E
Quebec	4,787	100.0	95.4	4.6*	2.6	1.6 ^E
Ontario	7,213	100.0	93.5	6.5	3.8	2.1
Manitoba	642	100.0	90.6	9.4*	5.3	3.3
Saskatchewan	575	100.0	90.7	9.3*	5.4	2.5 ^E
Alberta	1,731	100.0	92.2	7.8*	4.7	2.3
British Columbia	2,474	100.0	93.1	6.9	4.3	1.9
Gambling frequency						
Daily	278	100.0	69.7	30.3*	16.4 ^E	7.9 ^E
2 to 6 times a week	2,784	100.0	85.7	14.3*	7.2	5.4
Once a week	4,198	100.0	91.3	8.7	5.1	2.9
Once a month	4,370	100.0	94.1	5.9*	4.2	1.2
Once a year	7,257	100.0	98.9	1.1*	0.7	0.4 ^E
Gambling activity						
Lotteries	16,202	100.0	93.5	6.5	3.8	2.1
Instant win	9,027	100.0	90.6	9.4*	5.5	2.9
Casinos	5,413	100.0	86.7	13.3*	7.6	4.4
Bingo	2,098	100.0	84.5	15.5*	9.1	5.0
VLTs outside casinos	1,512	100.0	74.4	25.6*	13.2	9.0
Horse racing	1,038	100.0	84.2	15.8*	7.0	6.7
Average activities**	1.9	1.9	3.0*	2.9	3.2	3.2

Source: Canadian Community Health Survey 1.2, 2002

* Statistically significant difference at the .05 level. Tests were done between the at-risk proportion of the reference category and other categories within each variable (except for the provinces, which were compared with the Canada total).

** Significance tests were done between the non-problem and at-risk gambling populations.

Only 3% of those who visited a casino in the past year did so weekly. Although bingo was played by relatively few gamblers (8%), it was the third most frequently played game—one in five played at least once a week.

Participation in gambling was high among both men (78%) and women (73%), and was 70% or higher among each age group over 24. Despite the legal age restriction of 18 in most provinces, one-half of young men and one-third of young women (aged 15 to 17) gambled in 2002. Indeed, a considerable number of these adolescents purchased provincially sanctioned lotteries and instant win games. Youth participation rates were highest in the 'other gambling' category—predominantly betting on cards or board games outside casinos, or on games of skill (such as pool or darts).

Differences in provincial participation rates reflect both accessibility to particular types of gambling and provincial cultural preferences. For example, VLTs in age-restricted locations, such as racetracks and bars, are permitted in Manitoba but not in Ontario, producing vastly different participation rates—21% and 2% respectively. Although bingo is permitted in all provinces, it is generally more popular in the Atlantic region. Betting on horse racing, also available nationwide, has relatively low participation rates. However, 11% of Prince Edward Islanders bet on the ponies in 2002, well above the national average of 4%, perhaps because harness racing is closely connected to the culture in that province (Jepson and Patton 1999).⁵

Those most at risk

Men who gambled were significantly more likely than women to be at-risk or problem gamblers—8% versus 5% (Table 2). Some claim this difference exists because men and women tend to gamble for different reasons and in different activities. Men were more likely to play VLTs (7% versus 5%) and bet on horse racing (5% versus 3%); women were more likely to play bingo (12% versus 5%) (Table 1). The cultural image of a gambler may also play a role. The archetypal gambler portrayed in movies, fiction and music has always been male (Castellani 2001).

At-risk and problem gamblers were also, on average, younger than non-problem gamblers (40 versus 45). While gamblers with less than postsecondary schooling were significantly more likely than those with more education to be at-risk or problem gamblers (8% and 5% respectively), low-income gamblers (under \$20,000) were not significantly different from higher-income gamblers (\$20,000 or more).⁶

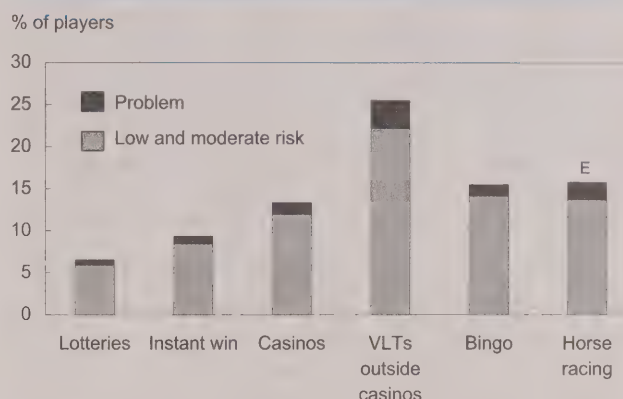
Off-reserve Aboriginal gamblers were significantly more likely to be at risk than non-Aboriginal gamblers—18% versus 6%.⁷ The factors associated with problem gambling raise concerns for the Aboriginal population. “First Nations communities in Canada likely will be at greater risk, as many of their communities experience high rates of substance abuse and have lower than average levels of income and education.” (Kelley 2001, p. 6).

Manitoba and Saskatchewan had considerably higher proportions of at-risk gamblers (9.4% and 9.3% respectively) than other provinces. Contributing factors may include the highest VLT participation rates in the country; the highest casino participation rates along with Ontario (Table 1); and above average Aboriginal populations.⁸

Almost one in three daily gamblers were either at risk (30%) or already problem gamblers (6%). Those who gambled two to six times a week were also significantly more likely to be at risk or to have a problem (14%).

Finally, at-risk and problem gambling rates varied considerably by the type of game played, suggesting that some games are more alluring than others (Chart B). For example, one in four of those whose playing included VLTs were at risk or already problem gamblers, confirming the much-reported notion that VLTs

Chart B: One-quarter of VLT players were at risk or had a problem.



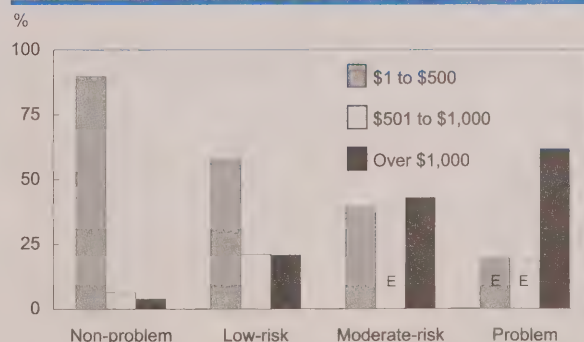
Source: Canadian Community Health Survey 1.2, 2002

are the ‘crack cocaine’ of gambling. By contrast, buyers of lottery tickets, the game of choice for 16 million people, had the smallest proportion of at-risk and problem players (7%).⁹

Gambling takes money

Inevitably, frequent gambling lightens the wallet. Problem gamblers were by far the most likely to spend more than \$1,000 per year—62%, compared with 4% of non-problem gamblers (Chart C).

Chart C: Six in 10 problem gamblers spent over \$1,000 per year.



Source: Canadian Community Health Survey 1.2, 2002

Moderate-risk gamblers at 43% were next highest, followed by low-risk gamblers at 21%. The vast majority of non-problem gamblers (90%) spent \$500 or less per year, with 33% spending only \$50 or less.

Overall, 6% of gamblers spent over \$1,000, the same proportion reported by one-person households in the Survey of Household Spending (SHS). Although it is not possible to identify problem gamblers from the SHS, exact gambling expenditures are available. The median value for those who spent more than \$1,000 was \$2,280 for men and \$1,900 for women in 2001.¹⁰

Constant gambling and excessive spending can take its toll in many facets of life—particularly personal and family finances. The majority of problem gamblers (62%) reported that they always or most of the time spent more money on gambling than they wanted to (Table 3). Only 3% of non-problem gamblers reported that they only sometimes spent more than they had planned (data not shown). Furthermore, 85% of problem gamblers said they sometimes or most of the time bet more than they could afford to lose, compared with 47% of moderate-risk and 14% of low-risk gamblers. Without doubt, constant out-of-control and unaffordable spending can lead to debt and unpaid bills, thus adding further emotional and financial strain. Indeed, among problem gamblers, 53% said their gambling habits sometimes caused financial problems, and another 17% reported that they always or almost always did. Finally, 39% of problem gamblers claimed that they sometimes borrowed money or sold things in order to continue gambling, a desperate action that risks further financial hardship.

Problem gamblers burdened with stress and health issues

Relentless preoccupation with gambling consumes both time and money, and can also have a negative effect on physical and mental health. Problem gamblers were twice as likely (22% versus 11%) to report poor or fair health compared with non-problem gamblers (Table 4). The likelihood of alcohol dependence increased as

Table 3: Money issues related to gambling

	Type of gambler		
	Low-risk	Moderate-risk	Problem
	%		
Spent more than wanted to			
Sometimes	52	64	30
Always/most of time	5 ^E	24	62
Bet more than could afford to lose			
Sometimes	14	44	47
Always/most of time	0	3 ^E	38
Gambling caused financial problems			
Sometimes	F	22	53
Always/most of time	0	F	17 ^E
Borrowed money or sold things to gamble			
Sometimes	5 ^E	18	39
Always/most of time	F	F	F

Source: Canadian Community Health Survey 1.2, 2002

Note: The responses do not add up to 100 because the 'never' category is not shown.

Table 4: Health, social and stress issues among gamblers

Within past 12 months (unless otherwise stated)	All gamblers	Non-problem	Low-risk	Moderate-risk	Problem
Total	18,887	17,699	697	373	118
			%		
Fair or poor health	11	11	10	14	22 ^{*E}
Alcohol dependence [†]	3	2	7*	12*	15 ^{*E}
Family problems from gambling	1	F	4 ^{*E}	16*	49*
Gambling interfered with ability to do job**	...	...	...	57	55
High or extreme stress	24	23	27	21	42*
High distress level in past month [†]	10	9	16*	17*	29*
Had ever had clinical depression	11	11	12	15	24 ^{*E}

Source: Canadian Community Health Survey 1.2, 2002

* Statistically significant difference from the non-problem group (.05 level).

** Of those employed, which included roughly 90% of all gamblers aged 25 to 55.

† See Data source and definitions for full explanation of derived variables.

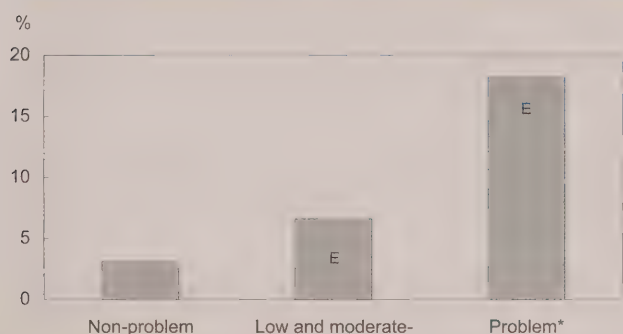
the at-risk gambling level increased. Only 2% of non-problem gamblers were afflicted with alcohol dependence, compared with 7% of low-risk and 15% of problem gamblers. Although methodology and definitions vary, other studies have also found a correlation (co-morbidity) between alcohol dependence and pathological gambling (Kidman 2002).

Obsessive gambling can also lead to social problems. Half of all problem gamblers reported that their gambling caused relationship problems with their family or friends. Such problems were also reported by 16% of moderate-risk gamblers, but by virtually no non-problem gamblers. Furthermore, more than half of employed moderate-risk and problem gamblers reported that their gambling had previously interfered with their ability to do their job.

Stress is an inevitable outcome of the financial and social pressures created by problem gambling. Although gambling may not be the sole cause, 42% of problem gamblers reported a high or extreme level of stress in their life, compared with 23% of non-problem gamblers. Also, based on a number of psychological distress questions, 29% of problem gamblers were considered highly distressed, compared with just 9% of non-problem gamblers.

Persistent stress can be related to depression. The likelihood of ever having had a major clinical depression was significantly higher among problem gamblers.

Chart D: Almost one in five problem gamblers contemplated suicide in past year.



Source: Canadian Community Health Survey 1.2, 2002

* Statistically significant difference from non-problem group (.05 level).

Only 11% of non-problem gamblers had ever had clinical depression during their life, compared with 24% of problem gamblers. Major depression is a key risk factor for suicide (Newman and Thompson 2003). CCHS 1.2 found that a significantly higher proportion of problem gamblers than non-problem gamblers had contemplated suicide in the past year (18% versus 3%) (Chart D).

“In light of the high rates of anxiety and depression, it is no wonder that pathological gamblers have very high rates of suicidal ideation” (Lesieur 1998, p. 158). Some studies have pointed out, however, that although mental disorders, pathological gambling and suicide attempts are associated, cross-sectional data do not permit an examination of cause and effect (Newman and Thompson 2003). However, causation aside, finding that one in five problem gamblers considered suicide in 2002 is startling and worrisome.¹¹

Problem gamblers know they're in trouble

In 2002, more than one-third of a million Canadians (2% of all gamblers) at least occasionally thought that they might have a gambling problem (Table 5). Four in 10 problem gamblers almost always felt they had a problem. In some ways it is surprising that 15% of problem gamblers did *not* think they had a problem.

Table 5: Indications of difficulty with gambling

	Low-risk	Moderate-risk	Problem
	'000		
Difficulties in past 12 months	697	373	118
Felt they might have a gambling problem	%		
Sometimes	10 ^E	46	47
Always/most of time	F	3 ^E	38
Wanted to stop but thought they could not			
Sometimes	5 ^E	22	36
Always/most of time	F	5 ^E	27 ^E
Tried to quit, but unable			
Sometimes	4 ^E	21	30
Always/most of time	F	5 ^E	25 ^E

Source: Canadian Community Health Survey 1.2, 2002

Note: The responses do not add to 100 because the 'never' category is not shown.

The insidiousness of excess gambling is revealed by the 27% of moderate-risk and 64% of problem gamblers who had wanted to stop gambling in the previous year, but believed they could not. Furthermore, a strikingly high proportion of moderate-risk (26%) and problem gamblers (56%) had tried to quit, but could not. It is not known what means they tried nor why they failed.

Conclusion

The surge in the gambling industry began in the 1990s when provincial governments began legalizing permanent casinos and VLTs. In 2002, 76% of Canadians reported gambling in the previous year—4 in 10 on a weekly basis. The continuous expansion of the industry has led to much debate. In 2000, the Canadian Public Health Association adopted the position that the expansion of gambling is a public health issue and that work must be done towards “minimizing gambling’s negative impacts while balancing its potential benefits” (Korn and Skinner 2000). However, estimating the health and socio-economic costs and benefits of gambling is difficult, and no study has yet done it (Wynne and Shaffer 2003).

CCHS 1.2 adds new information on the health and social costs associated with gambling. It identified 700,000 low-risk, 370,000 moderate-risk, and 120,000 problem gamblers—5% of the total population and 6% of all gamblers. Those significantly more likely to be in the at-risk or problem categories were men, Aboriginal persons, people with less education, and VLT and very frequent players.

The consequences of being an at-risk or problem gambler included higher rates of financial and relationship problems. Problem gamblers in particular suffered elevated levels of alcohol dependence, stress, emotional distress, and past episodes of depression. However, the vast majority of problem gamblers recognized they had a problem, and most (56%) had tried—unsuccessfully—to quit in the previous year. The many problems associated with gambling, including the inability to stop may partly account for the 18% of problem gamblers who contemplated suicide in the previous year. Ultimately, suicide is an irreversible consequence with immeasurable cost, and contemplating it is certainly a cry for help.

■ Notes

- 1 Gambling revenue as a percentage of total government revenue increased from 1.9% in 1992 to 5.1% in 2001 (Marshall 2003).
- 2 Research is ongoing into the root cause of problem or pathological gambling—that is, whether it is biological, genetic or behavioural. Although this article does not address the reasons for problem gambling, they are important in determining successful treatments.
- 3 Similar to alcohol consumption, frequency and expenditure rates for gambling are regularly under-reported.
- 4 Instant win tickets include Keno, Pick 3, Encore, Banco, and Extra. Lottery tickets include 6/49, Super 7, Sports Select, and Pro-Line.
- 5 The provincial differences mentioned in this paragraph are all statistically significant at the .05 level, as are the differences by sex in the types of games played that are listed in the next paragraph.
- 6 Although at-risk and problem-gambling rates were quite similar for the various income groups, gambling participation rates differed. For example, 69% of individuals with less than \$20,000 gambled in 2002, compared with 82% of those with \$20,000 or more.
- 7 These figures exclude the on-reserve Aboriginal population.
- 8 Overall, the off-reserve Aboriginal population represents 1% of the population, but in Manitoba it represents 6%, and in Saskatchewan 5%.
- 9 A more precise way to measure the addictive tendencies of each activity would be to look at those who played one activity exclusively. In 2002, this was the case for 40% of gamblers overall, 42% of non-problem gamblers, and 4% of problem gamblers. However, even with this bias, non-problem gamblers made up 99% of those who bought only lottery tickets, compared with 90% of those who played only VLTs.
- 10 For more information on gambling expenditure by type of gambling activity from the Survey of Household Spending, see Marshall (2003).
- 11 Due to community pressure, as of June 2003, coroners across the country began coding suicides due to gambling. Although most provinces now keep track of gambling-related suicides, their methodologies and measurement differ, thus making comparability difficult (Bailey 2003).

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Health care professionals

Diane Galarneau

HEALTH CARE has long been a concern for Canadians. Since the introduction of health insurance in 1972, numerous commissions have examined health care and proposed ways to improve it. These various reports focused largely on access to health care, its funding (public or private), and its quality. In 2001, Canada ranked fourth among the OECD countries in terms of share of GDP allotted to health—9.7%. Along with the U.S. and Finland, health care costs in Canada increased dramatically in 2000 and 2001 (OECD 2003).

Human resources are also an important concern for the health care system. Whenever nurses and physicians are mentioned, the words ‘shortage’ and ‘waiting list’ leap to mind. In the early 1990s, efforts were made to control the growth in the number of physicians to avoid a surplus. Now, however, more students are being admitted into medical schools and more foreign physicians are being sought in order to avoid a shortage. The aging population poses a double challenge as caseloads increase and health workers in the baby boom generation begin retiring. Because women usually work fewer hours

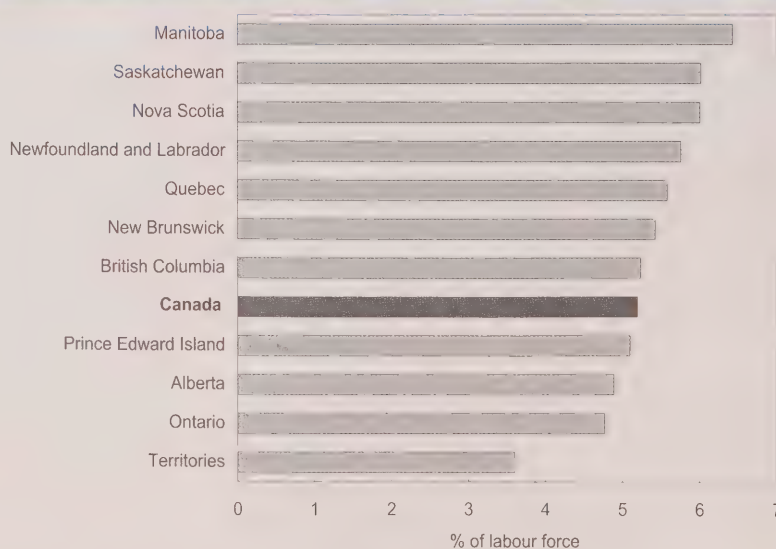
than men, their increased entry into general practice and specialized medicine has intensified the pressures on these occupations (Chan 2002). This, combined with massive retirements in some occupations in the 1990s, has served to reinforce the impression of a labour shortage in health care.

Health workers, especially professionals, have undergone many changes in recent years, from both a demographic and work standpoint. Using census data from 1991 and 2001, these changes are highlighted for all health care workers and then examined in more detail for nurses and doctors.

The health work force

Health workers can be divided into three major categories: professionals, technical personnel, and support personnel (see *Definitions*). Professionals made up 57% of all workers in health occupations in 2001. The majority of professionals (63%) were nurses, with physicians—general practitioners and specialists—far behind at 14% (Table 1).

Chart A: Ontario and the Territories have the lowest ratios of health workers.



Source: Census of Canada, 2001

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Definitions

Health worker: A person with an occupation listed in section D (codes D011-D313) of the 2001 National Occupational Classification.

Health professionals are primarily concerned with diagnosing and treating health problems in humans and animals and with providing related services such as pharmacy, nutrition, speech therapy, physiotherapy and occupational therapy. In addition to specialist physicians and general practitioners, dentists, veterinarians, optometrists, chiropractors, pharmacists, dietitians and nutritionists, audiologists and speech-language pathologists, physiotherapists and occupational therapists, this group includes nurses—both registered and licensed practical nurses.

Technical personnel are primarily concerned with providing technical services to professionals. Supervisory technologists and technicians are included in this group. It includes medical laboratory technologists and pathologist's assistants, medical laboratory technicians, veterinary and animal health technologists and technicians, medical radiation technologists, medical sonographers, cardiology technologists, electroencephalographic technologists, respiratory therapists, clinical perfusionists, cardio-technologists, denturists, dental hygienists and therapists, dental technologists, technicians and laboratory bench workers, opticians, midwives and practitioners of natural healing, and ambulance and paramedical attendants.

Support personnel are primarily concerned with providing technical support to professionals. They include dental assistants, nurses aides, orderlies, and patient service associates.

Registered nurses include registered nurses, registered psychiatric nurses, and graduates of a nursing program who are awaiting registration.

Licensed practical nurses provide care usually under the direction of medical practitioners, registered nurses, or other health team members. This group includes operating room technicians.

Specialist physicians are doctors who specialize in clinical medicine, laboratory medicine or surgery.

Other professionals: professional occupations in business and finance; professional occupations in natural and applied sciences; judges, lawyers, psychologists, social workers, ministers of religion, and policy and program officers; and professional occupations in art and culture—categories B0, C0, E0, and F0 in the 2001 National Occupational Classification. In most cases, these occupations require at least a bachelor's degree.

Full-year, full-time: The full-year, full-time category was created by combining weeks worked in the census reference year with hours usually worked in the census reference week. Full-time workers usually have a more stable work pattern than the rest of the workforce.

Mostly part-time: those who reported working mostly part time during the reference year. This category does not take into account the number of weeks worked in the reference year.

Unemployment rate: the unemployed expressed as a percentage of the labour force. However, those who had never been employed or were not employed during the 18 months preceding the census reference week did not indicate an occupation, and hence were excluded.

In 2001, almost 824,600 persons worked in the health field, an increase of 15% since 1991. In comparison, the labour force as a whole increased by 11%, as did the population of Canada. Health workers accounted for 5% of the labour force in 2001 (Chart A).¹ Provincially, Manitoba posted the highest proportion (6.4%) and Ontario the lowest (4.8%). The Territories also had a low proportion (3.6%).

Characteristics of health workers

Women have always accounted for a large proportion of health workers (Table 1). In 2001, nearly four health workers in five were women (79%) compared with less than one in two in other sectors. They were particularly evident in support occupations requiring few skills (87%).

From 1991 to 2001, the average age of workers in the labour force increased by 1.8 years. In comparison, the increase for health workers was relatively large (2.8 years), especially for professionals (3.3 years).

The increase varied by occupation. In 1991, health professionals were only slightly older than their counterparts in other fields (39.5 compared with 39.1), but by 2001, the gap had widened to two years. Among professionals, registered nurses and licensed practical nurses saw the largest increase—4.1 and 4.4 years respectively. Because nurses make up such a large proportion of professionals, they are mainly responsible for the significant increase in this group's average age. In 2001, specialists had the highest average age (45.7) followed closely by head nurses and supervisors (45.4) and general practitioners (45.2).

Table 1: Characteristics of health workers

	1991	2001	Change	Women		Average age	
				1991	2001	1991	2001
	'000		%	%			
Non-health workers	13,639,100	15,045,900	10.3	43.6	45.2	36.9	38.7
Professionals	1,511,300	2,062,400	36.5	45.2	48.1	39.1	40.7
Health workers	719,300	824,600	14.6	79.1	79.3	38.3	41.1
Professionals	430,600	467,600	8.6	79.4	78.2	39.5	42.8
Specialists	18,200	24,400	34.2	23.5	31.5	44.4	45.7
General practitioners	37,200	41,600	11.8	26.8	34.4	42.4	45.2
Dentists	13,300	17,900	35.0	15.3	27.7	42.1	44.1
Veterinarians	4,400	7,100	61.2	32.0	47.8	38.1	41.1
Optometrists	3,100	3,700	18.3	37.7	44.1	40.5	40.8
Chiropractors	3,400	4,900	47.3	16.0	27.8	40.9	40.7
Other diagnosing and treatment	800	2,700	254.1	59.3	59.7	42.6	43.2
Pharmacists	17,800	24,300	36.5	52.0	57.6	39.0	40.5
Dietitians and nutritionists	4,700	8,800	86.8	95.3	93.8	35.1	40.5
Audiologists and speech-language pathologists	3,900	6,100	58.0	92.4	91.8	35.6	38.4
Physiotherapists	11,000	16,000	45.7	84.9	79.5	36.2	39.0
Occupational therapists	5,800	9,700	68.5	89.7	90.3	34.6	36.3
Other therapy and assessment	1,400	4,800	244.6	74.2	81.2	36.4	37.7
Head nurses and supervisors	19,500	10,200	-47.5	93.3	92.6	42.9	45.4
Registered nurses	232,500	237,300	2.1	95.2	94.2	38.9	43.0
Licensed practical nurses	53,700	47,900	-10.9	92.2	92.0	38.8	43.2
Technical personnel	119,300	145,300	21.8	70.4	72.2	35.9	38.6
Medical laboratory technologists and pathologist's assistants	20,000	19,100	-4.6	80.3	80.8	36.5	41.5
Medical laboratory technicians	24,200	19,600	-18.8	81.7	81.8	36.1	39.5
Veterinary and animal health technologists and technicians	3,300	9,200	181.6	74.6	87.3	30.5	31.6
Respiratory therapists, clinical perfusionists, and cardio-pulmonary technologists	4,500	6,500	44.2	65.6	65.4	32.9	36.5
Medical radiation technologists	14,700	14,500	-1.7	79.6	79.9	36.5	40.5
Medical sonographers	1,500	2,600	78.1	85.0	86.1	35.7	39.9
Cardiology technologists	1,700	1,800	7.8	91.3	89.2	39.2	42.6
Electroencephalographic technologists	900	1,600	90.5	65.4	76.6	37.2	41.0
Other technologists	5,900	4,100	-30.5	79.7	59.2	36.7	39.6
Denturists	1,800	2,100	13.8	18.9	21.7	42.4	43.9
Dental hygienists and therapists	9,600	14,500	51.0	95.8	97.7	32.3	36.0
Dental technologists, technicians and laboratory bench workers	5,800	6,000	2.4	39.4	46.1	37.0	41.2
Opticians	3,900	5,900	50.8	55.6	58.3	36.2	39.3
Midwives and practitioners of natural healing	3,300	4,700	41.1	61.0	74.8	41.3	44.1
Ambulance and paramedical attendants	12,200	16,400	33.9	20.5	26.1	34.5	36.8
Other occupations in therapy and assessment	5,900	16,600	180.2	75.2	80.9	36.5	37.1
Support personnel	169,400	211,700	24.9	84.4	86.7	36.8	39.0
Dental assistants	22,200	25,600	15.3	98.0	98.1	30.9	34.4
Nurses aides, orderlies, and patient service associates	118,900	138,500	16.5	82.8	85.6	38.3	40.6
Other support personnel	28,300	47,600	68.2	80.4	83.6	35.1	36.8

Source: Census of Canada

Table 2: Comparison of health and non-health workers

	Total	Non-health	Health	Health professionals	Technical	Support
	'000					
Number						
1991	14,358	13,639	719	431	119	169
2001	15,870	15,046	825	468	145	212
Women				%		
1991	45.4	43.6	79.1	79.4	70.4	84.4
2001	47.0	45.2	79.3	78.2	72.2	86.7
Average age						
1991	37.0	36.9	38.3	39.5	35.9	36.8
2001	38.8	38.7	41.1	42.8	38.6	39.0
Recent immigrants				%		
1991	4.5	4.5	4.2	3.5	4.7	5.5
2001	6.0	6.1	4.7	3.8	4.7	6.7
Unemployment rate						
1991	8.2	8.5	3.2	2.2	3.8	5.4
2001	5.4	5.6	1.9	1.2	2.4	3.1
Full-year, full-time						
1991	51.8	51.7	52.8	54.3	57.6	45.5
2001	54.2	54.1	57.1	59.5	59.0	50.6
Full-year, mostly part time						
1991	19.6	19.0	29.6	29.9	21.4	34.8
2001	21.7	21.4	27.6	25.5	24.2	34.4
Self-employed						
1991	9.2	9.2	9.6	13.9	6.5	0.8
2001	11.0	11.0	12.0	16.8	12.5	1.0
Average hours						
1991	31.1	31.1	31.2	32.5	31.6	27.5
2001	32.8	32.8	32.8	34.2	32.7	29.6

Source: Census of Canada

The prospect of a labour shortage in some health occupations is causing government officials to advocate policies of greater openness toward foreign workers. However, in 2001, the proportion of recent immigrants (those who arrived in Canada during the previous 10 years) was little changed from 1991 among health professionals (remaining below 4%), whereas the proportion rose by just over one-third (from 4.5% to 6.1%) among non-health workers (Table 2). The difference may be the result of the difficulty many professionals face in getting their credentials recognized. However, the proportion of immigrants in the technical and support categories rose slightly.

Work intensity generally increased for health workers from 1991 to 2001. The proportion employed full year, full time increased more than for other workers, rising 4.3 percentage points over the decade, compared with 2.4 points for other workers. Health professionals and support personnel led the way with 5 points.

By contrast, the proportion of health workers who worked mostly part time decreased by 2 points. Compared with other workers, those in health occupations, whether professional, technical or support, more often work

part time. The greater prevalence of part-time may be related to the difficulty nurses experience in obtaining full-time positions as well as to the large proportion of women in health occupations (Chart B).²

Coupled with high work intensity is a low unemployment rate. The unemployment rate for health workers in 2001 was considerably lower than for other workers (1.9% compared with 5.6%). Professionals were the least likely to be unemployed, at only 1.2%. Technical and support personnel also had relatively low rates (2.4% and 3.1% respectively).

In 2001, health workers averaged the same number of hours per week as the rest of the workforce (32.8). Professionals posted a slightly higher average (34.2). By comparison, in the non-health area, senior managers worked 42.7 hours and other professionals 34.7 hours.

Income from employment

Overall, average annual employment income grew 7.2% in real terms between 1990 and 2000 (Table 3).³ For health workers, the increase was 8.9%, compared with 7.0% for non-health workers. Professionals experienced the greatest increase (13.8%), followed by support personnel (8.6%), with technical personnel trailing behind at 0.6%.

Median employment income increased more modestly (3.3% overall) because of large increases registered in the upper income groups. Health workers again stood out. Professionals posted the largest gain (15.1%), support personnel showed a modest gain of 7.9%, and technical personnel a drop of 0.2%.

Table 3: Work intensity and annual income of health workers

	Total	Non-health	Health	Health professionals	Technical personnel	Support personnel
All workers						
Average hours						
1991	31.1	31.1	31.2	32.5	31.6	27.5
2001	32.8	32.8	32.8	34.2	32.7	29.6
				%		
Change	5.5	5.5	5.1	5.2	3.5	7.6
Average earnings						
				\$		
1990	30,300	29,900	38,400	47,200	33,300	19,700
2000	32,500	32,000	41,900	53,700	33,500	21,400
				%		
Change	7.2	7.0	8.9	13.8	0.6	8.6
Median earnings						
				\$		
1990	25,200	24,400	30,400	36,500	32,100	19,500
2000	26,000	25,200	32,400	42,000	32,000	21,000
				%		
Change	3.3	3.1	6.4	15.1	-0.2	7.9
Full year, full time						
Average hours						
1991	43.1	43.1	41.4	42.3	40.4	39.3
2001	43.9	44.0	41.9	42.7	41.5	40.0
				%		
Change	1.9	2.1	1.2	0.9	2.7	1.8
Average earnings						
				\$		
1990	41,300	40,900	48,700	58,700	40,600	25,800
2000	43,000	42,600	49,800	61,800	39,900	26,600
				%		
Change	4.0	4.1	2.2	5.2	-1.6	3.1
Median earnings						
				\$		
1990	36,500	36,500	38,900	45,000	39,100	25,800
2000	35,800	35,100	40,000	48,800	40,000	26,000
				%		
Change	-1.9	-3.7	2.8	8.4	2.4	0.7

Source: Census of Canada

Health professionals also compared favourably with similar groups outside health. Average employment income during the same period rose 4.9% for other professionals and 13.9% for senior managers. The median dropped 2.5% for the former and rose 0.2% for the latter.

Among those working full year, full time, health workers again came out on top with median earnings increases greater than in the rest of the workforce. This coincided with an increase in their average age and in

hours worked. Technical and support personnel showed a modest increase in median earnings and a larger increase than professionals in hours worked.⁴

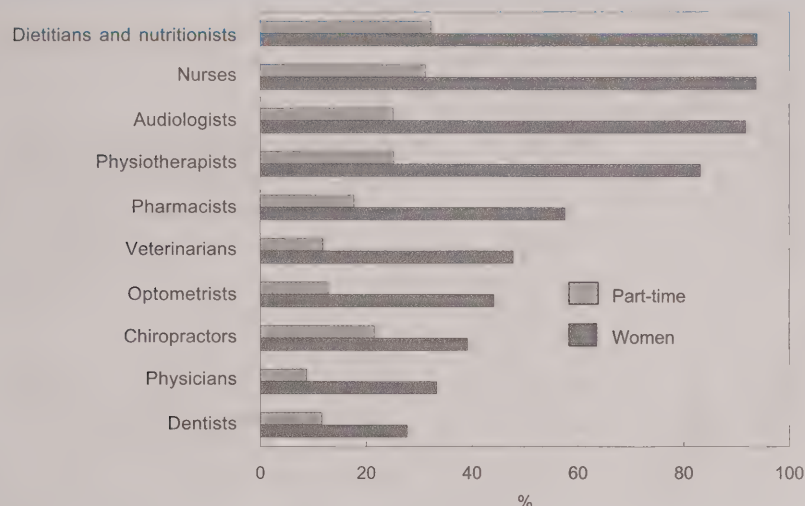
Among professionals, the increase seems to reflect in part their increased work intensity and the rise in their average age. However, these general observations conceal differences that appear when health occupations are examined separately, the two most important in numerical terms being nurses and doctors.

Nurses

'Nurse' refers to both registered nurses and licensed practical nurses. However, the two are examined separately, even though their duties are similar and both are regulated. Licensed practical nurses often work under the supervision of registered nurses or physicians. In most cases, they have one year of postsecondary training, while registered nurses have at least a college education, with a bachelor's degree becoming increasingly common.

While the number of registered nurses increased substantially in the 1980s, a slowdown in hiring and staff cuts through attrition in the 1990s transformed a perceived surplus into a perceived shortage. Between 1991 and 2001, the number of registered nurses grew a modest 2% (Table 1), while the number of head nurses and supervisors fell by 48% because of the elimination of line-manager positions. The ranks of registered nurses have grown more slowly than the total population with the result that the per capita ratio has shrunk, dropping from 93.3 nurses per 10,000 population in 1991 to 82.5

Chart B: As the proportion of women increases in health occupations, so too does part-time work.



Source: Census of Canada, 2001

tively (Table 1). This is primarily because of the small number of people joining the profession—a consequence of both the low hiring rates in the early 1990s and falling enrolment in nursing programs (Chart D).

The profession's difficult working conditions—long hours, shift work, understaffing, and low availability of full-time positions—may be a factor in the declining enrolments in college and university nursing programs. These conditions may also be responsible for the tendency among nurses to retire relatively early.

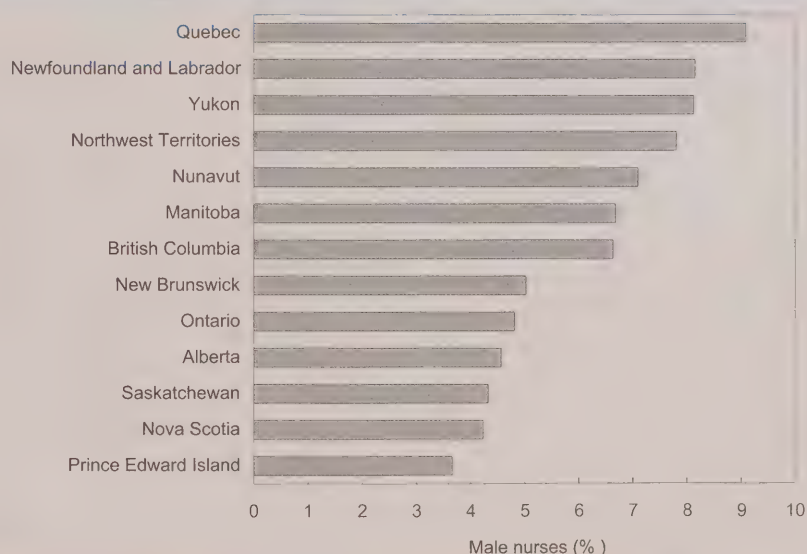
It has been estimated that the profession would lose more than 64,000 registered nurses between 2001 and 2006 because of retirement or premature death (CIHI 2003a).⁷ This number represented

in 2002 (Table 4).⁵ The ratio declined across Canada, with Alberta and British Columbia having the lowest in 2001.⁶

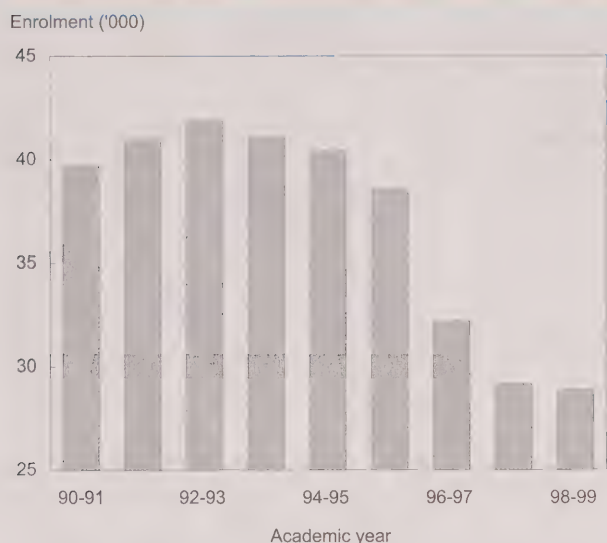
Exacerbating the situation, the number of licensed practical nurses decreased by 11% between 1991 and 2001. The decline affected just about every part of Canada, with British Columbia, Ontario and Alberta having the lowest overall ratio in 2001.

The nursing profession is still overwhelmingly female—93.8% in 2001, compared with 94.6% in 1991. Quebec had the highest proportion of male nurses, at 9.1%, compared with 3.7% in Prince Edward Island (Chart C). Registered nurses and licensed practical nurses are among the health professionals whose average age increased most between 1991 and 2001—4.1 and 4.4 years respec-

Chart C: Overall, women make up 95% of nurses, but the proportion of men varies by province.



Source: Census of Canada, 2001

Chart D: Postsecondary enrolment in nursing programs has fallen.

Sources: Community College Student Information System;
University Student Information System

28% of the ranks in 2001. British Columbia would be most affected with 32% likely to retire between 2001 and 2006; the Atlantic region would lose the least with 22%.

No comparable forecasts have been done for licensed practical nurses. According to the Licensed Practical Nurses Database (LPNDB), however, more than half of those currently working as licensed practical nurses will be 55 or over by 2012, and a large proportion will be eligible for retirement between now and then—60% in British Columbia and about 42% in Nova Scotia (CIHI 2003b).

Because of the shortage of doctors, governments are now considering expanding the role of nurses by allowing them to take on duties normally carried out by physicians. With increased responsibilities, the

growing complexity of their jobs, as well as technological advances, more and more registered nurses now have bachelor's degrees. In fact, several provinces announced in the late 1990s that a bachelor's degree in nursing would become a prerequisite (CIHI 2003c). The proportion of registered nurses with at least a bachelor's degree quintupled during the period, from about 5% in 1991 to nearly 25% in 2001.

Work intensity and annual employment income

The low availability of full-time positions for nursing staff has been making headlines for years. However, in 2001, nurses were among the health professionals whose average hours per week increased the most (nearly 8%) relative to 1991 (Table 5).

In addition, the proportion of nurses working full year, full time increased—registered nurses from 50% to 58%, licensed practical nurses from 50% to 56%.⁸ Whether the work is full- or part-time has numerous effects in the area of employment benefits. According to the Registered Nurses Database, the number of full-time positions has actually increased since 1998 (CIHI 2003c), growing faster than the number of part-time positions. These gains were made at the expense of casual positions.

Table 4: Nurses per 10,000 inhabitants

	Registered nurses			Registered and licensed practical nurses	
	Census 1991	Census 2001	CIHI 2001	Census 1991	Census 2001
Canada	93.3	82.5	74.1	113.2	98.4
Newfoundland and Labrador	91.6	98.4	102.0	135.5	147.6
Prince Edward Island	108.3	100.7	91.2	145.0	141.2
Nova Scotia	113.8	100.2	90.6	140.4	126.1
New Brunswick	105.5	97.3	97.8	127.0	122.4
Quebec	87.1	82.1	78.7	109.1	100.7
Ontario	92.2	81.6	67.4	110.7	92.8
Manitoba	108.3	96.9	89.4	133.0	109.9
Saskatchewan	97.3	89.6	80.8	118.5	107.4
Alberta	97.7	78.7	74.3	117.5	95.8
British Columbia	92.2	73.4	66.4	103.4	88.7
Territories	73.0	81.6	103.4	83.9	98.3

Sources: Census of Canada; Canadian Institute for Health Information

Table 5: Annual earnings and work intensity of health professionals

	Total				Working full year, full time			
	Median income		Average hours		Median income		Average hours	
	2000	Change 1990-2000	2001	Change 1991-2001	2000	Change 1990-2000	2001	Change 1991-2001
	\$	%		%	\$	%		%
Non-health professionals	41,500	-2.5	34.7	3.0	50,000	-2.1	43.2	3.1
Health professionals	42,000	15.1	34.2	5.2	48,800	8.4	42.7	0.9
Specialists	110,100	-7.0	46.6	-5.5	125,700	3.3	54.5	-2.7
General practitioners	97,000	-0.3	46.4	-2.9	104,100	-4.9	53.5	-2.2
Dentists	80,000	-8.4	37.0	2.8	95,900	-1.5	42.3	1.7
Veterinarians	50,000	2.8	42.8	-4.7	55,800	-0.3	49.7	-3.5
Optometrists	62,000	-2.0	37.1	6.3	70,000	-4.1	43.0	4.9
Chiropractors	42,000	-30.9	37.2	-1.6	50,000	-29.1	42.9	1.9
Other diagnosing and treatment	27,000	-19.6	33.1	7.1	35,000	-17.8	43.0	2.9
Pharmacists	52,000	6.9	35.3	2.3	59,600	6.7	42.5	0.0
Dietitians and nutritionists	33,000	-3.1	30.1	4.2	42,500	-7.9	39.8	1.8
Audiologists and speech-language pathologists	45,000	5.7	31.8	4.6	50,900	-0.4	40.2	4.1
Physiotherapists	40,600	13.1	32.2	5.6	48,700	5.4	40.4	1.5
Occupational therapists	40,000	9.6	30.6	0.7	46,000	5.2	39.2	1.6
Other therapy and assessment	28,000	21.1	30.3	9.0	35,000	8.0	40.8	0.5
Head nurses and supervisors	48,000	3.3	33.6	4.3	51,400	3.1	41.0	4.3
Registered nurses	40,000	17.4	31.5	7.9	46,000	8.0	40.3	2.3
Licensed practical nurses	28,000	11.0	30.7	7.7	31,200	2.7	39.8	1.5

Source: Census of Canada

The median annual employment income of registered nurses rose over 17% in real terms during the 1990s—the second largest increase after therapy and assessment professionals (21%).⁹ Licensed practical nurses also saw significant growth in their earnings (11%).

Full-year, full-time registered nurses had the largest gain in median earnings among professionals (8.0%). Because of their large proportion, this increase was a major factor in the 8.4% rise for all health professionals between 1990 and 2000. Licensed practical nurses had a modest 2.7% increase. The gains are attributable in part to increases in hours worked per week (2.1%) and average age, but they may also reflect the growing scarcity of professionals of this type.

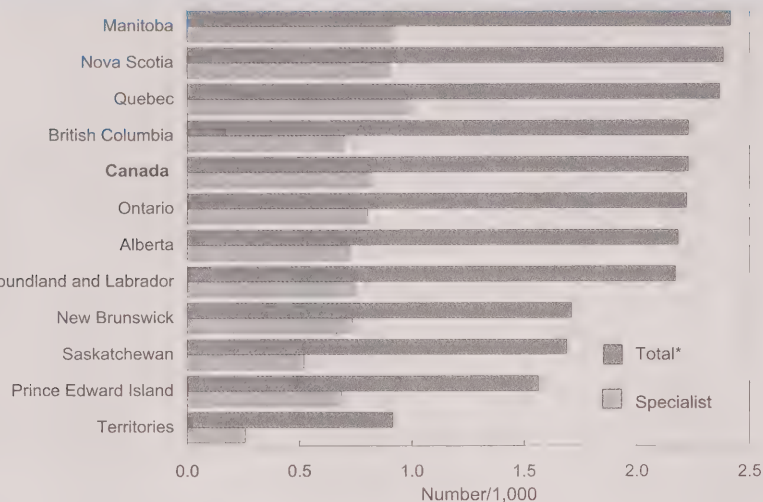
General practitioners and specialists

Professionals in the health sector increased by just under 9% between 1991 and 2001, while professionals in other sectors went up by 36%. General practi-

tioners increased by just under 12%, while specialists rose 34% as a result of the growing preference of physicians for specialized medicine over family practice (Chan 2002).¹⁰

Canada had 2.2 physicians per 1,000 population in 2001, well below the 2.9 average for OECD countries (OECD 2003).¹¹ Most provinces had comparable ratios (ranging between 2.2 and 2.4) except New Brunswick, Saskatchewan, Prince Edward Island and the Territories, where the ratio varied from 1.7 to less than 1 (Chart E). These regional disparities can be ascribed to a number of factors. For example, some remote regions may have difficulty attracting physicians and may be served by neighbouring regions with higher ratios. The number of general practitioners and specialists includes interns, and since some provinces have greater enrolment capacity than others, their ratios may be artificially inflated.

Chart E: Prince Edward Island and the Territories have the lowest doctor-to-inhabitant ratios.



Source: Census of Canada, 2001

* Specialists plus family practitioners

Note: Excludes doctors working outside the country

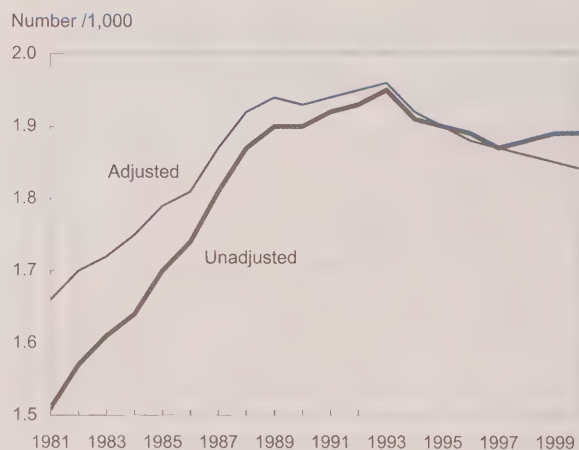
The number of specialists per capita also varied by province and territory. However, the pattern was much the same as for the overall ratio—the same provinces and regions had high and low ratios. Whether the specialist ratio is high or low may be related to whether the area is urban or rural. Specialists are found more often in large urban areas. In rural areas, general practitioners are more likely to attend births and provide palliative and urgent care—functions carried out in urban areas by specialists (CIHI and Statistics Canada 2003).

The ratio of physicians per 1,000 population does not reflect hours worked, productivity, nor heavier demand for their services within certain population groups. These factors have been taken into account in the adjusted ratio (Chan 2002). This ratio accords physicians a weight, based on the number of medical procedures they carry out, by age and sex. A weight is also given to the population based on different health needs, by age and sex. While the unadjusted ratio points to a slight increase in the per capita number of physicians over the past few years, the adjusted ratio indicates a steady decline after a peak in 1993 (Chart F).

General practitioners and specialists have the highest average age among professionals—for several reasons (Table 1). In general, physicians retire relatively late, as confirmed by the high proportion who are 55 or older. In addition, enrolment in faculties of medicine has been falling and years of post doctoral study has been rising, as family medicine loses ground to specialized medicine.¹²

In 2001, about 48% of professionals outside health were women, compared with 78% in the health sector. While this proportion remained stable between 1991 and 2001, the proportion in some traditionally male occupations increased—from 27% to 34% among general practitioners, and from 23% to 32% among specialists. The rise reflects incoming medical graduates, the majority of whom since 1996 have been

Chart F: The unadjusted doctor-to-inhabitant ratio increased slightly at the end of the 1990s, the adjusted ratio continued to decline.



Source: Canadian Institute for Health Information

women (CIHI 2002). The relatively recent influx of women into these professions is reflected in their being, on average, younger than their male counterparts (40.6 versus 47.8).

The proportion of self-employed workers in the labour force grew between 1991 and 2001. While rates varied widely by sex and occupation, health professionals seemed much more inclined to be self-employed—17% in 2001, compared with 13% in other sectors (Table 6). However, this appears to be a male tendency—50% versus 8% of women. The low percentage is partly the result of women being concentrated in occupations where self-employment is uncommon such as nursing. On the other hand, women are in the minority among specialists, general practitioners, dentists, veterinarians, optometrists and chiropractors, most of whom are self-employed. And even in occupations where self-employment is high, proportionally fewer women than men are self-employed.

Work intensity and annual earnings

Average hours worked by specialists and general practitioners declined appreciably between 1991 and 2001 (-6% and -3% respectively) (Table 5). In addition, fewer worked full year, full time—specialists went from about 68% in 1991 to 61% in 2001, general practitioners from 67% to 65%.

The decline may be due to the higher proportion of women in these occupations. Between 1991 and 2001, women accounted for most (73%) of the increase in the physician workforce—particularly among general practitioners where they accounted for virtually all of it (98%). Despite the major influx of

Table 6: Self-employment among health professionals

	Both sexes		Men		Women	
	1991	2001	1991	2001	1991	2001
	%					
Non-health professionals	9.4	12.6	12.1	16.0	6.2	8.9
Health professionals	13.9	16.8	50.7	49.6	4.3	7.6
Specialists	54.5	52.9	57.6	58.4	44.3	40.8
General practitioners	62.6	61.6	66.3	65.5	52.4	54.1
Dentists	81.5	77.6	83.6	82.5	70.2	64.7
Veterinarians	52.5	46.8	60.5	54.0	35.6	38.9
Optometrists	73.8	80.5	88.0	87.0	50.4	72.3
Chiropractors	86.3	87.3	89.5	90.9	69.4	77.8
Other diagnosing and treatment	49.3	66.4	63.8	71.7	39.3	62.8
Pharmacists	16.7	14.2	27.4	24.6	6.7	6.6
Dietitians and nutritionists	7.5	9.0	17.0	20.8	7.0	8.2
Audiologists and speech-language pathologists	5.5	10.5	19.0	24.7	4.4	9.2
Physiotherapists	14.3	23.5	28.9	37.2	11.7	20.0
Occupational therapists	7.1	11.2	11.0	13.2	6.7	11.0
Other therapy and assessment	13.1	17.8	8.4	16.6	14.7	18.1
Head nurses and supervisors	0.9	0.8	2.7	1.5	0.8	0.8
Registered nurses	0.7	1.1	1.0	1.1	0.7	1.1
Licensed practical nurses	0.7	0.8	1.7	0.9	0.6	0.8

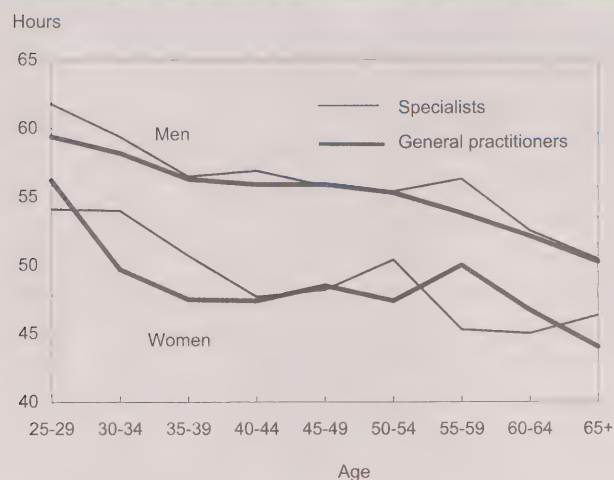
Source: Census of Canada

women into these occupations, those working full year, full time accounted for the majority of the increase among these professionals. However, full-year, full-time women physicians averaged just under 50 hours a week, while their male counterparts worked 56 hours. The gap varies with age, increasing in the age range where women usually have children and declining thereafter (Chart G). Nevertheless, in 2001, there was a significant difference in most age groups.

The decline in the proportion of full-year, full-time specialists and general practitioners may also be because they are among the oldest of all health professionals, and

hours worked tend to decrease after age 55 (Chart H). The number of health professionals 55 and over rose by 35% between 1991 and 2001.

The high average age of physicians, combined with the influx of women into these occupations, accentuates the perception of a shortage, since women and older physicians work fewer hours than male physicians under age 55. Other factors, such as rules designed to reduce the number of medical procedures and some hospitals' need to cut the number of available beds, also lengthen waiting lists and reinforce the perception of a doctor shortage.

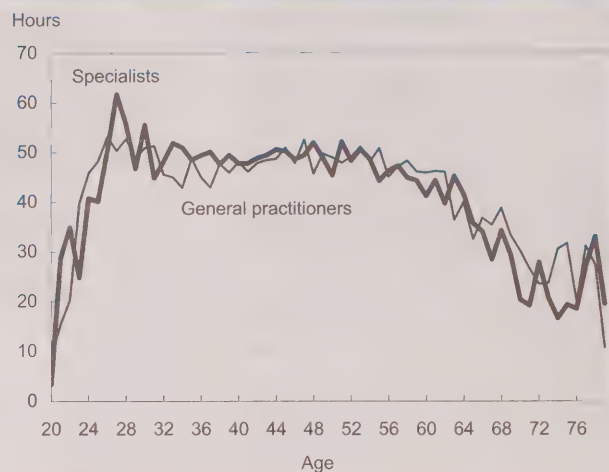
Chart G: Among physicians, regardless of age, women worked fewer hours.

Source: Census of Canada, 2001

Full-year, full-time specialists and general practitioners are working fewer hours—2.7% and 2.2% less respectively. Yet administrative data indicate that hours worked by physicians vary from year to year. Since most are paid by the procedure, another way of measuring their work intensity is to look at the number of medical procedures performed per unit of time. This measure, obtained from administrative data, indicates that full-year, full-time physicians of both sexes performed more medical procedures in 1998-1999 than in 1989-1990 (CIHI 2002). In both periods, male doctors performed more procedures. In addition, despite a decline in average weekly hours worked, specialists and general practitioners combined still worked more hours per week in 2001 than other health professionals (54.5 and 53.5 respectively).

Median annual earnings rose 3.3% in real terms for full-year, full-time specialists and fell 4.9% for general practitioners. These variations contrast with the 8.4% growth for all health professionals. By way of comparison, median annual earnings declined by 1.9% for all workers and by 2.1% for other professionals.

The earnings changes affecting general practitioners and specialists may be linked to several factors. While on one hand the rise in average age should cause the employment income of physicians to rise, the increase

Chart H: After age 55, doctors cut back on their hours.

Source: Census of Canada, 2001

in women entering the profession and fewer self-employed would help explain the opposite trend.¹³ Increased operating expenses¹⁴ as well as a tendency to underbill may also account for the lack of growth in physicians' incomes. There are various reasons for underbilling. Some physicians may simply be unaware that certain procedures can be billed. Others who are uncomfortable with billing for some procedures or who want to simplify administrative processes do not bill their patients for some services not covered by health insurance (blood or urine samples). Underbilling could amount to as much as 15% of a physician's annual income (Clarke 2001).

Annual earnings by province

The annual employment income of physicians (specialists and general practitioners) varies considerably by province (Table 7). Even if the analysis is confined to the income of full-year, full-time workers, there may be proportional differences in number of hours worked between provinces due to such factors as the age-sex distribution of professionals, the scarcity of professionals, and the composition of the population they serve. In addition, the specialties of physicians in certain provinces, the types of clinics operated by general practitioners, and the proportion who are self-employed may affect their average earnings.

Table 7: Median annual employment income of full-year, full-time health workers, 2000

		Nurses		
		General practitioners	Head nurses, supervisors and registered nurses	Licensed practical nurses
Specialists				
\$				
Canada	125,700	104,100	46,500	31,200
Atlantic provinces	144,600	110,000	42,500	28,000
Quebec	130,000	100,000	46,400	33,000
Ontario	132,000	120,000	49,000	33,700
Prairies	100,000	100,000	46,000	29,900
British Columbia	100,500	85,000	50,000	40,000
Territories	F	F	60,000	F

Source: Census of Canada

Median average employment income differs by \$45,000 between specialists in the Atlantic provinces and the Prairies. A gap of 35,000 exists between Ontario and British Columbia for general practitioners.

Because the nursing profession is unionized, income disparities may reflect the intensity of salary negotiations by various unions, the age composition of the workforce, greater needs in certain regions, a shortage of nurses, the usual number of hours worked, and the proportion of overtime. Because earnings data for registered nurses include head nurses and supervisors, the gaps may also reflect the higher pay given to supervisory staff in some provinces. For example, a \$8,000 difference exists between the earnings of full-year, full-time nurses in British Columbia and their counterparts in the Atlantic provinces.

Income gap between men and women

In 2000, the income of women health professionals working full year, full time fell 36% short of the income of their male counterparts (Table 8). But the gap varied by occupational group, ranging from 53% for specialists to 7% for audiologists, speech-language pathologists, physiotherapists, and occupational therapists. But because women work fewer hours than men, the gap must be adjusted to reflect the difference in hours worked—reducing it for most occupations.

However, a substantial gap remains for specialists and general practitioners. For example, the average annual earnings of women specialists working full year, full time were 44% less than those of their male counterparts. While the gap was somewhat smaller for general practitioners, women still earned 20% less than men.

Part of the gap is probably caused by age, province, locality, and salaried or self-employment status. The effect of these variables was tested with a Oaxaca decomposition model. About a third of the gap is due to women

being younger and less likely to be self-employed. The remaining two-thirds can be attributed to the field of specialization, physicians being paid by the procedure, women performing fewer medical procedures than men, and other unobservable sex differences.

Summary

In health occupations, women are in the majority—nearly four out of five in 2001. In addition, health workers are somewhat older on average than other workers, 41.1 compared with 38.7. And their average age has risen more rapidly than in other occupations since 1991.

Health workers generally increased their work intensity—many increased their work hours, and the proportion working full year, full time was up sharply. Nevertheless, part-time work remained common, probably because of the large proportion of women in the health sector, as well as the difficulty of obtaining full-time nursing positions. Health occupations also had a relatively low unemployment rate in 2001.

During the 1990s, health workers in general saw their median annual earnings rise twice as much as that of other workers: 6.4% compared with 3.1%. Professionals stood out with the strongest increase (15.1%), with much smaller gains for support personnel (7.9%). In part, these increases reflected an increase in both work intensity and average age.

The ranks of nurses (registered and licensed practical nurses) grew more slowly than the total population with the result that the per capita ratio shrank, dropping from 113.2 per 10,000 in 1991 to 98.4 in 2001.

Table 8: Annual employment income of full-year, full-time health professionals, by sex, 2000

	Men	Women	Ratio of women to men	
			Unad- justed	Adjusted for hours of work
	\$			%
Non-health professionals	55,300	44,400	80	83
Health professionals	70,000	45,000	64	72
Specialists	150,000	71,000	47	56
General practitioners	120,000	84,000	70	80
Dentists	101,900	67,000	66	65
Veterinarians	61,500	47,000	76	84
Optometrists, chiropractors, and other diagnosing and treatment	60,000	40,000	67	73
Pharmacists, dietitians and nutritionists	62,800	50,000	80	87
Audiologists and speech-language pathologists, physiotherapists and occupational therapists, and other therapy and assessment	50,000	46,300	93	100
Head nurses and supervisors and registered nurses	49,900	46,000	92	95
Licensed practical nurses	34,000	31,000	91	93

Source: Census of Canada

The profession's difficult working conditions—long hours, shift work, understaffing, and low availability of full-time positions—may be a factor in the declining enrolments in college and university nursing programs. These conditions may also be responsible for the tendency among nurses to retire relatively early. However, the number of full-time positions has actually increased since 1998, more rapidly than the number of part-time positions. These gains were made at the expense of casual positions. The increase in full-time positions probably explains in part why nurses were among the health professionals whose average hours per week increased the most from 1991 to 2001.

Full-year, full-time registered nurses had the largest gain in median earnings among professionals (8.0%). Licensed practical nurses had a modest 2.7% increase. The gains are attributable in part to increases in hours worked per week (2.1%) and average age, but they may also reflect the growing scarcity of professionals of this type.

Canada had 2.2 physicians per 1,000 population in 2001, well below the 2.9 average for OECD countries. The provinces had comparable ratios (ranging between 2.2 and 2.4) except New Brunswick, Saskatchewan, Prince Edward Island and the Territories, where the ratio varied from 1.7 to less than 1.

General practitioners and specialists are among the oldest professionals. This is due in part to the low number of entrants, a consequence of a decline of enrolment in faculties of medicine and an increase in the number of years of postdoctoral study as family medicine loses ground to specialized medicine. Also, physicians retire relatively late.

The median annual earnings of full-year, full-time specialists were up 3.3% in 2000 compared with 1990, while general practitioners saw their earnings fall by 4.9%. These small variations differ dramatically from the 8.4% increase observed for health professionals and occurred despite a significant increase in average age. The variations also coincided with an increase in the influx of women, a decline in hours worked relative to 1991, and a decrease in the proportion of self-employed.

Women health professionals who worked full year, full time earned 64% as much as their male counterparts in 2001. The size of the gap depended on the occupation, ranging from 53% for specialists to 7% for audiologists, speech-language pathologists, physiotherapists, and occupational therapists. After the fewer hours worked by women was taken into account, a substantial gap remained for some occupations. Among specialists and general practitioners, a third of the gap was the result of women being younger and less likely to be self-employed. The remaining two-thirds could be attributed to factors such as field of specialization, fewer medical procedures performed by women, and unobservable differences.

■ Notes

- 1 Excludes unemployed persons who have never worked, since they had no occupation to report. Unpaid family workers and persons not reporting earnings for the year preceding the census were also excluded.
- 2 Among health workers, the coefficient of correlation between the proportion of women in each occupation and the proportion working part time was .77.
- 3 Average employment income from employment comprises wages and salaries and net income from farm or non-farm self-employment.
- 4 The 'full-year, full-time' category is an artificial construct: weeks worked are for the year preceding the census while hours worked are for the week before the census. It was adopted because full-time workers usually have a more stable work pattern than the rest of the labour force.
- 5 The figures include head nurses and supervisors.
- 6 This ratio differs from one based on the Registered Nurses Database (RNDB) because the census does not distinguish between registered nurses (RNs) and registered psychiatric nurses (RPNs). In the four western provinces, RPNs are not included in the RN group. Hence, in these provinces the RN ratio per 10,000 population does not include RPNs, and the RNDB ratio is lower than the census ratio. Also, unlike the census, the RNDB is an administrative database of nurses who have registered and obtained a licence to practise. Associate and inactive members and nurses who are working outside Canada or have left the labour market are excluded. The figures for this ratio were taken from *Workforce Trends of Registered Nurses in Canada, 2002*, p. 53 (see *References*).
- 7 According to this study, many nurses retire as early as age 56.
- 8 Hours reported relate to the week preceding the census for all jobs held during that period. Nearly 16% of all nurses were working more than one job in 2002, according to the RNDB and CIHI, compared with less than 5% of all workers according to the 2002 Labour Force Survey.
- 9 This group includes art therapists, play therapists and music therapists.
- 10 Unless otherwise indicated, the data include a small portion of Canadians working outside the country. It is possible to identify these workers in 2001 but not in 1991. For comparability, they were included in 2001 since their number is not large enough to affect the general trends.
- 11 The ratio for Canada is calculated by OECD based on Southam's medical database. The average of 2.9 physicians per 1,000 population for all OECD countries compares with Canada's 2.1. This figure represents the number of physicians according to Southam plus residents and interns. Without the latter two, the ratio is about 1.87. The ratio obtained from the 2001 Census, which includes residents and interns, is 2.2—slightly higher. Several factors account for the discrepancies. For example, unlike the census, Southam does not include physicians who are semi-retired or those on military bases. Both Southam and the census exclude physicians working outside the country.
- 12 According to CIHI, in 1992, 80% of medical students opted for family medicine, compared with 45% in 2000.
- 13 Self-employed general practitioners and specialists. In 2001, the latter earned almost twice as much as salaried physicians (\$130,000 compared with \$77,000). In 1991, the differences were larger. Self-employed general practitioners and specialists earned \$125,000, and employees \$75,000.
- 14 Self-employed physicians are required to report their net business income—that is, gross income less operating expenses.

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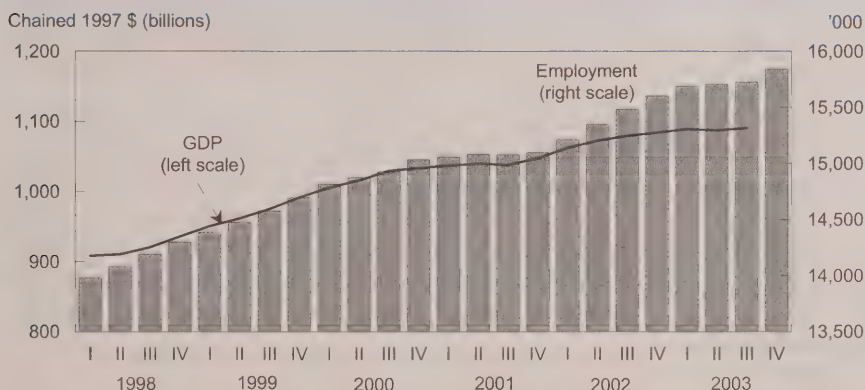
The labour market in 2003

Geoff Bowlby

FOLLOWING A TREMENDOUS GAIN in employment the previous year, 2003 got off to a slow start. During the first eight months, employment growth was minimal. Over the year, the economy was rocked by a rapidly rising Canadian dollar, and probably to a lesser extent by war in Iraq, the SARS scare, and the Ontario-U.S. power outage. The last time the labour market saw such a sustained period of weakness was in 2001, when Canada narrowly avoided a recession.

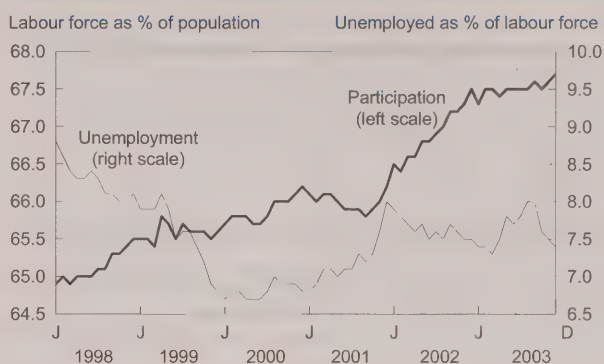
However, employment surged forward during the last four months, and in the end the labour market salvaged some modest improvement for the year (Chart A). On average, just over 15.7 million people were employed in 2003, up 334,000 (2.2%) from 2002. At 62.4% of the working-age population, this was the highest annual employment rate on record.

Chart A: Employment growth was slow for most of 2003, but soared in the final four months.



Sources: Labour Force Survey; System of National Accounts, seasonally adjusted

Chart B: High participation rate throughout 2003; unemployment rate rose, then fell as employment picked up.



Source: Labour Force Survey, seasonally adjusted

Much of the gain in the last four months was in full-time work. For the year, there were 253,000 more full-time workers than the year earlier, an increase of 2.0%. Part-time increased 81,000 (2.8%).

While participation rates remained at historical highs throughout the year, the unemployment rate rose at the start of the year, when employment growth was weak, but fell at the end (Chart B). For the year, it averaged 7.6%, down marginally from 2002.

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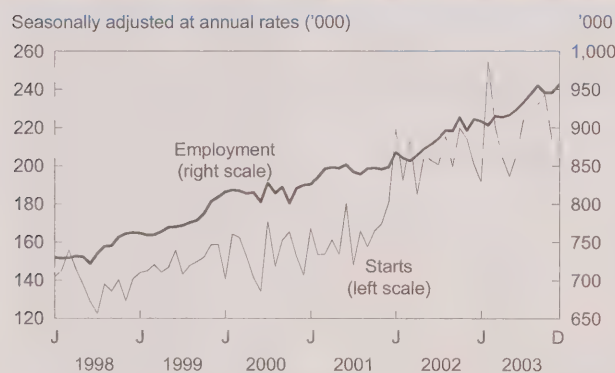
Employment buoyed by new housing and re-sales

With continued low mortgage interest rates driving demand and low stocks of homes available to a growing number of buyers, construction was robust throughout 2003 (Chart C) and on its way to the most housing starts since the late 1980s.

The continued strength of the housing sector helped employment gains in 2003. On average, construction employment in 2003 was 49,000 (5.5%) higher than in 2002. As a spin-off, employment in finance, insurance and real estate was 41,000 higher (4.5%) than in 2002, with most of the gain in real estate.

Added construction and real estate jobs led to a second consecutive gain in self-employment. In 2003, self-employment increased 67,000 following a gain of 37,000 in 2002. Prior to this, self-employment had been on a downward trend, falling 154,000 between 1999 and 2001.

Chart C: Construction employment grew, pushed by strong housing starts.

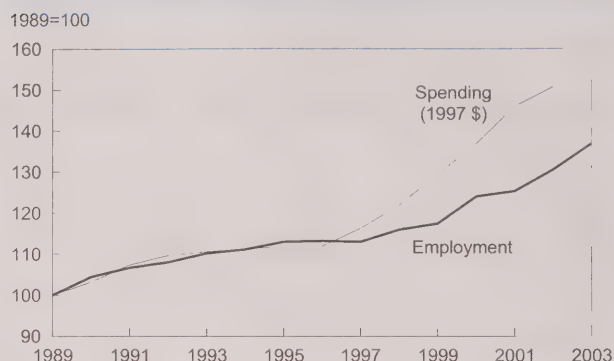


Sources: Labour Force Survey, seasonally adjusted; Canada Mortgage and Housing Corporation

More health care and social assistance employment

With health-care spending tracking upward, health-care and social-assistance employment continued to grow in 2003 (Chart D), much of it concentrated in Ontario and Quebec. For the year, employment in the industry increased 77,000 from the average in 2002.

Chart D: Increase in health care spending meant more jobs.



Sources: Labour Force Survey, Canadian Institute for Health Information

Note: Health expenditure data for 2001 and 2002 are forecasts and subject to revision.

Since 1996, health-care spending in Canada has increased 35%, three times the growth of the lean period between 1990 and 1996. As a result, employment in the industry has also jumped. From 1996 to 2003, health-care and social-assistance employment increased 20.9%, a pickup from the 8.5% gain during the previous six-year period.

Another big source of jobs in 2003 was public administration (Table 1). After falling for seven years, employment in public administration has increased in every year since 2000, including a surge of 37,000 in 2003. However, even with the recent gains, employment in public administration (at 815,000) remains well below its peak in 1993. In 1993, civil servants made up 6.7% of the workforce, compared with 5.2% in 2003.

The majority of the 2003 gain in public administration was at the federal level. Ottawa-Gatineau received the lion's share of the new federal employment, helping to dramatically improve the labour market in that area. On average, the unemployment rate was 6.8% in Ottawa-Gatineau, down from 7.2% the year before.

Together, public administration and health care and social assistance drove the gain of 90,000 in public-sector employment in 2003. The year before, education and health care were responsible for most of the increase.

Table 1: Employment by industry

	Average 2003	Change from 2002	
	'000		%
Total employed	15,746.0	334.2	2.2
Goods-producing sector	3,986.1	43.5	1.1
Agriculture	339.5	9.5	2.9
Forestry, fishing, mining, oil and gas	289.7	17.7	6.5
Utilities	131.5	0.0	0.0
Construction	931.4	48.6	5.5
Manufacturing	2,294.0	-32.2	-1.4
Services-producing sector	11,759.9	290.6	2.5
Trade	2,460.7	30.7	1.3
Transportation and warehousing	766.8	10.6	1.4
Finance, insurance, real estate and leasing	936.2	40.6	4.5
Professional, scientific and technical services	999.5	6.2	0.6
Management, administrative and support	612.2	20.8	3.5
Educational services	1,050.3	34.4	3.4
Health care and social assistance	1,684.3	77.3	4.8
Information, culture and recreation	704.5	-0.3	0.0
Accommodation and food services	1,022.3	18.4	1.8
Other services	707.9	14.7	2.1
Public administration	815.2	37.2	4.8

Source: Labour Force Survey

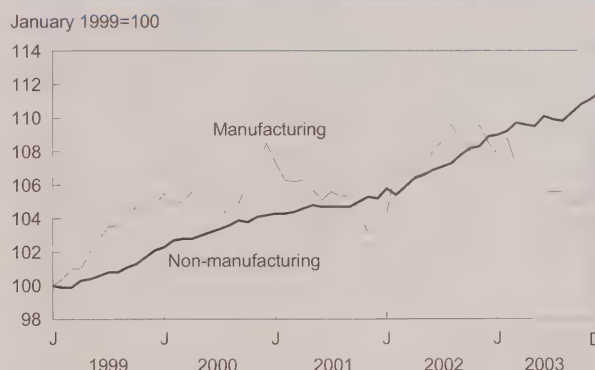
With consumer spending having risen for the better part of the last seven years, employment in retail and wholesale trade continued to advance. In 2003, trade employment averaged 2.5 million, 31,000 higher than the previous year. Much of the gain resulted from added jobs in food stores.

Reduced output at auto plants and continued weakness in high-tech pulled down manufacturing

A rapidly rising Canadian dollar, which made Canadian goods more expensive to American customers, combined with reduced auto sales and a continued slump in high-tech, hobbled manufacturing in 2003. Employment in the industry fell 32,000 from the previous year's average level. The weakness was concentrated in computer and electronic as well as transportation equipment.

The decline in manufacturing employment had a significant influence on the overall employment trend. In fact, employment outside manufacturing rolled along at 2.9%, a similar pace to the year earlier (Chart E).

Shipments from Canadian plants fell through most of 2003, creating widespread losses in manufacturing. Overall, from January to October, shipments were down 0.4% from the same period a year earlier. Driving the trend was a modest decline in transportation equipment (-4.4%). For the first 10 months of 2003, cumulative new motor vehicle sales in Canada were 4.2% below the same period in 2002, a record year when sales climbed 8.5%. The reduced domestic demand for automobiles does not explain all the weakness in automobile and parts manufacturing in Canada, since most products are destined for export. Over the January to October period, automobile and parts exports from Canada were down almost 10% from the same period a year earlier.

Chart E: Non-manufacturing employment grew steadily in 2003.

Source: Labour Force Survey, seasonally adjusted

Declines also continued for shipments of computer and electronic equipment, falling 14.3% in the first 10 months of 2003. The value of computer and electronic equipment shipments was half the 2000 level, when high-tech production was at its peak.

Some encouraging signs at the end of the year

Helping offset the negative effects of the rapidly rising Canadian dollar was an amazing spurt of economic growth in the United States at the end of 2003. In the third quarter, U.S. gross domestic product leapt an annualized 8.2%. Other international markets appear to be on track to help Canadian economic growth. The composite leading indicator produced by the Organisation for Economic Co-operation and Development suggests moderate to strong recovery. The index points to continued accelerating performance in the United States and improving performance in Euro currency countries, particularly Germany and France.¹ In Canada, the leading index increased significantly in the last quarter of 2003, jumping 0.8% in December.

Table 2: Selected labour market estimates for major age-sex groups

	Average 2003	Change from 2002	
	'000	%	
Employment	15,746.0	334.2	2.2
Men	8,406.7	144.7	1.8
15 to 24	1,220.1	10.9	0.9
25 to 54	6,038.2	45.5	0.8
55 +	1,148.4	88.2	8.3
Women	7,339.3	189.5	2.7
15 to 24	1,186.8	29.0	2.5
25 to 54	5,337.5	58.9	1.1
55 +	815.0	101.6	14.2
Unemployment	1,300.9	23.3	1.8
Men	729.2	1.4	0.2
15 to 24	225.4	6.4	2.9
25 to 54	426.4	-15.1	-3.4
55 +	77.5	10.1	15.0
Women	571.6	21.8	4.0
15 to 24	159.6	4.4	2.8
25 to 54	365.5	13.0	3.7
55 +	46.5	4.4	10.5
		%-point	
Unemployment rate	7.6	-0.1	
Men	8.0	-0.1	
15 to 24	15.6	0.3	
25 to 54	6.6	-0.3	
55 +	6.3	0.3	
Women	7.2	0.1	
15 to 24	11.9	0.1	
25 to 54	6.4	0.1	
55 +	5.4	-0.2	

Source: Labour Force Survey

Manufacturing sector affected youth and core-age workers

Youth and core-age workers (25 to 54) were affected most by the manufacturing slump. On average, 15,000 fewer youths and 26,000 fewer core-age workers worked in manufacturing in 2003.

Nevertheless, all major age-sex groups managed employment gains (Table 2). The largest came from people 55 and older—in part because baby boomers are now entering this age group. The annual average growth rate for this group was 10.7% in 2003, shared by men and women. For older women, the largest component of the increase came from added employment in health care and social assistance. For older men, the gain was in education, construction and real estate.

The year 2003 marked the third consecutive year that older workers have led the way in the labour market (Chart F). The median age of retirement in Canada in 2003 was close to 62, up somewhat from the lows of the 1997-1999 period, when it was just under 61.

Among core-age workers, women were the main beneficiaries of public-sector hiring. On average, employment in 2003 among core-age women was up 59,000 (1.1%) from the year earlier. Over three-quarters of the gain occurred in health care and social assistance (25,000 or 2.4%) and public administration (19,000 or 6.4%).

Chart F: The employment rate rose sharply for those 55 and over in 2003.



Source: Labour Force Survey

Employment among core-age men also increased in 2003, largely the result of the construction boom. Overall, employment for core-age men was up 46,000 (0.8%), propelled by a 21,000 gain in construction.

While youth employment fell through much of the year, the average level of employment among this group remained high. Youth employment averaged 2.4 million in 2003—40,000 or 1.7% higher than the year before. Employment in retail and wholesale trade was higher for youth than the year earlier.

Strongest employment gains in Alberta

Employment growth has been strong in Alberta for over a decade. In 2003, employment increased a further 48,000 (2.9%) from a year earlier (Chart G), driven by added hiring in the oil patch and in retail and wholesale trade. For the year, the unemployment rate in Alberta was 5.1%, down 0.2 percentage points from the year earlier. All age groups saw employment increases in 2003.

Half the increase in natural resource employment was in Alberta. Oil industry employment was 9,000 higher than the year earlier in that province. According to the Canadian Association of Oilwell Drilling Contractors, drilling activity increased significantly in Canada in 2003, with oil and gas explorers completing a record number of wells.

In December, the employed share of the working-age population in Alberta hit 70.2%, the highest employment rate on record for any province. In both Calgary

and Edmonton, the employment rate was very high. In Calgary, it averaged 71.5%, the highest of any major city in Canada, while in Edmonton, third highest, it hit 68.5%. Employment growth in both Calgary (2.1%) and Edmonton (2.8%) was robust in 2003.

Driven by gains in Vancouver, employment also expanded in British Columbia in 2003. The average level in the province was 50,000 (2.5%) higher than in 2002, with Vancouver up 34,000 (3.2%). A number of industries hired in 2003, mostly in the service sector. The unemployment rate in British Columbia was 8.1% in 2003, down from 8.5% the year previous.

In Ontario, employment was higher than in 2002. Despite weakness over the summer months in the Toronto area, employment gains at the start and end of the year helped push employment 160,000 (2.6%) higher than the year before. The unemployment rate averaged 7.0% in 2003, down only slightly for the year.

Almost all of the decline in manufacturing occurred in Ontario and Quebec. In Ontario, just under 1.1 million people were employed in manufacturing, down 28,000 (-2.5%) from 2002. Motor vehicle equipment, metal production, and computer manufacturing were the main sources of the decline.

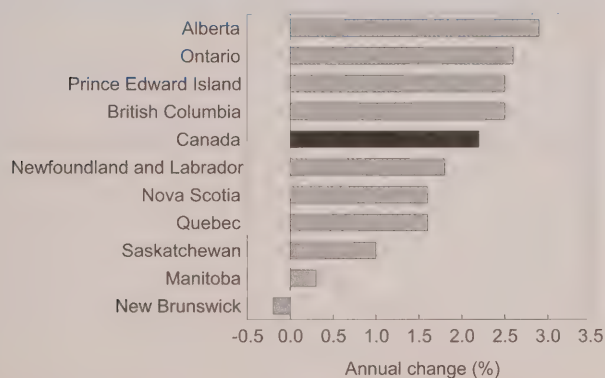
Following a very strong 2002, employment growth slowed in Quebec. On average, employment was 57,000 higher than in 2002 (1.6%), just under half the increase in 2002 (118,000 or 3.4%). Employment trends changed in the two largest industries in the province—manufacturing and trade. After a gain of 13,000 in 2002, manufacturing employment fell 17,000 in 2003. In trade, following a jump of 36,000 the year earlier, employment increased by only 11,000 in 2003.

As in many other provinces, people in Quebec continued to participate in the labour market in record number, even with slower job gains. With labour market participation high, the unemployment rate in Quebec increased to 9.1% in 2003, up half a percentage point.

In Prince Edward Island, employment increased 2.5% (1,700), similar to the pace in the preceding two years. On average, in 2003 the unemployment rate was 11.1%, the lowest since 1980. Employment rates have been climbing for six years in the province, hitting a new high of 60.8% in 2003.

In Nova Scotia, employment grew at the start of the year, fizzled over the summer, only to rebound at the end of the year. In total, employment was up 7,000

Chart G: Employment growth in 2003 was strongest in Alberta.



Source: Labour Force Survey

(1.6%) for the year, enough to knock the unemployment rate to 9.3% (down 0.4 percentage points) and push the employment rate to a record high 57.3% (up 0.6 points).

Employment increased in Newfoundland and Labrador for the third consecutive year. In 2003, it increased 4,000 (1.8%) compared with the year earlier. Although lower than 10 years ago, unemployment remains stubbornly high in Newfoundland and Labrador. The rate was 16.7%—about the same as the year earlier. A large difference remained between the unemployment situation in St. John's, where the rate was a relatively low 9.6%, and rural Newfoundland and Labrador, where it averaged 21.0%.

The other provinces saw no obvious improvement in their employment trends during 2003. While average employment levels in Manitoba and Saskatchewan were higher than the year before, this was only because these provinces held on to gains made during 2002; there was no net job creation during 2003.

Despite the lack of job creation during the year, employment rates in both Manitoba and Saskatchewan remained high in 2003. In Manitoba, the share of the

working-age population employed averaged 65.5% in 2003—above the national average and close to the record of 65.6% set in that province the year earlier. In Saskatchewan, the employment rate was 64.4%, the highest on record. Unemployment remained low in both provinces in 2003.

The only province with lower employment in 2003 was New Brunswick. Following a gain of 3.3% in 2002, employment edged down 0.2%. This was enough to cause the unemployment rate to edge up 0.2 points to 10.6%. Employment levels in accommodation and food fell 4,000, the largest drop of any industry in the province.

Perspectives

Note

1 OECD leading indicator information available at www.oecd.org/document/46/0,2340,en_2649_34349_21258734_1_1_1_1,00.html (accessed January 16, 2004).

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Retirement plan awareness

René Morissette and Xuelin Zhang

IN ADDITION TO WAGES, many employees receive benefits such as dental, life or supplemental medical insurance plans. Employer-sponsored retirement plans—registered pension plans (RPPs), group RRSPs and deferred profit-sharing plans—are another key component of total compensation.

During the mid-1990s, firms were thought to be moving from defined-benefit registered pension plans toward defined-contribution arrangements—particularly group RRSPs—because RPPs were more costly to administer and subject to substantial regulation. While subsequent examination showed the death of defined-benefit plans to be greatly exaggerated (Frenken 1996), the growing popularity of group RRSPs presents employees with a greater variety of employer-sponsored retirement plans than in the past.

But, can all employees make the distinction between RPPs and group RRSPs? How many think they have a RPP even though their employer does not provide one? How many mistakenly think they have a group RRSP? Most important, how many think they have at least one of the two but, in fact, have neither?

Accurate information about one's employer-sponsored retirement plan is crucial in deciding the timing of retirement, the role personal savings will play, and the allocation of one's portfolio between safe and risky investments. Such information is especially important since, contrary to many RPPs, group RRSPs require workers to decide whether to participate and if so, how much to contribute.

Using the Workplace and Employee Survey (WES), this article first reviews trends in RPP coverage over the last decade and provides estimates of workers with group RRSPs (see *Data source*). It then examines how

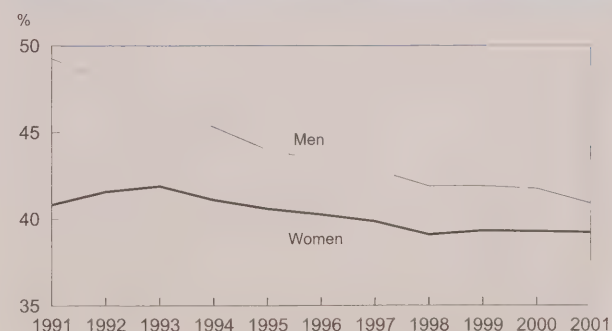
well full-time permanent employees in the private sector understood their coverage in an employer-sponsored retirement plan in 2001.¹

Trends in RPP coverage

In Canada, the retirement plans most commonly offered by employers are registered pension plans (RPPs), group registered retirement savings plans (group RRSPs), and deferred profit-sharing plans (DPSPs). Registered pension plans are by far the most popular. While information on DPSPs is limited, the available evidence suggests participation in them is fairly low—only 350,000 workers in 1993 compared with 5.2 million who had RPPs (Frenken 1995).²

According to the Pension Plans in Canada Survey, at the end of 2001 about 5.5 million employees—representing 40% of all employees, including those in the public sector—had an RPP in their job (Chart A). This percentage was down from 45% in 1991.³ Among men, coverage fell 8 percentage points to 41%; for women the drop was much less—from 41% to 39%.

Chart A: After declining through most of the 1990s, RPP coverage stabilized.



Source: Pension Plans in Canada Survey

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These numbers hide diverging trends between younger women (aged 25 to 34) and prime-aged women (aged 35 to 54). Between the mid-1980s and the late 1990s, RPP coverage increased among prime-aged women but fell among young women (Morissette and Drolet 2001). In contrast, both younger men and prime-aged men saw their percentage fall.

Group RRSPs

While anecdotal evidence suggests that group RRSPs are becoming more popular, information on employee participation is difficult to obtain from survey data since many workers do not appear to have a clear understanding of what constitutes a group RRSP.

In 2001, 2.1 million private-sector employees reported having a group RRSP in their job (Table 1). However, fully half a million were employed by firms having *no* group RRSPs. Only 1.6 million employees, representing 14% of the private-sector workforce, reported having a group RRSP *and* were in firms offering group RRSPs to at least some employees.⁴

Among workers who reported having a group RRSP but were in firms that did not have one, fully two-thirds had an employer that offered an RPP to at least part of the workforce. This suggests that many workers confuse group RRSPs with RPPs.⁵ It is unlikely that the discrepancy originates from employers not reporting a group RRSP even though they have one in the

workplace—for several reasons. First, employers must negotiate administration fees and investment returns with financial institutions when they sponsor group RRSPs. Second, they must make automatic payroll deductions for employee contributions. Third, employer contributions to group RRSPs are treated as earnings and hence are subject to all payroll deductions. Taken together, these factors strongly suggest that employers who offer group RRSPs are fully aware that they do so.⁶

Furthermore, employers are likely to have a clear understanding of the distinction between RPPs and group RRSPs. First, unlike group RRSPs, RPPs are subject to federal or provincial regulatory legislation. Second, employers must pay for actuarial services for defined-benefit RPPs. Third, employer contributions to RPPs are not considered part of an employee's earnings and so are not subject to payroll taxes (see *Features of RPPs and group RRSPs*).

Workers' knowledge of retirement plans

Be it RPP or group RRSP, as long as workers have some type of retirement plan, they will probably not suffer serious consequences as long as they have a clear understanding of its generosity. More serious concerns could eventuate if workers think they have an RPP or group RRSP but their employer provides neither.

In 2001, about half of full-time permanent employees in the private sector reported having an RPP or a group RRSP (Table 2). However, 8% of them were working for firms having neither type of plan. This means that 4% of full-time permanent employees in the private sector (390,000) thought they had a retirement plan but didn't.

Workers who have been in a company for only a short time and are not familiar with the fringe benefits may have a poorer knowledge of their retirement plans than those with more seniority. This likely explains why almost 20% of employees with less than two years of seniority who reported at least one retirement plan worked for firms reporting no retirement plans. The corresponding proportion is at most 7% among employees with 10 or more years of

Table 1: Employees reporting a retirement plan in their job

	'000	%
Employees in private sector	11,605	...
Report participating in a group RRSP	2,079	100.0
In firms offering group RRSPs to some employees	1,570	75.5
In firms offering no group RRSPs	509	24.5
Offering RPPs to all full-time permanent employees	327	15.7
Offering RPPs to some employees	20	1.0
Offering no RPPs	162	7.8
Report participating in a RPP	4,440	100.0
In firms offering group RPPs to some employees	3,707	83.5
In firms offering no RPPs	732	16.5
Offering group RRSPs to all full-time permanent employees	364	8.2
Offering group RRSPs to some employees	45	1.0
Offering no group RRSPs	323	7.3

Source: Workplace and Employee Survey, 2001

Data source

The sample of 17,061 permanent full-time, private-sector employees used in this study was drawn from the 2001 **Workplace and Employee Survey (WES)**. WES consists of both employer and employee components. Employers are sampled by physical location—the statistical unit that comes closest to the concept of a workplace in which employer and employee activities can be linked. Employees are then sampled within each location using employer-provided lists. WES covers all industries except farming, fishing, hunting, trapping and public administration.

Employees were asked if their employer offered any non-wage benefits, such as a pension, life insurance, or dental plan. Those answering yes were then asked if they participated in an employer-sponsored pension plan. The question stated that this did not include C/QPP or group RRSPs. The next question specifically asked if they participated in a group RRSP.

Employers were asked if they offered any non-wage benefits—health-related, pay-related, or pension-related. The examples given for pension-related benefits were pension plans and group RRSPs. They were then presented with a list of non-wage benefits and asked to indicate which were not available, available to all, available to non-management non-union employees, or available to non-management union employees.

seniority. In fact, low seniority explains why young workers appear less informed about their retirement plans than their older counterparts.⁷

University graduates, unionized workers, workers in large establishments, and those employed in finance and insurance, and communication and other utilities appear to be better informed than other workers. Among those who reported having a retirement plan, at most 3% were in firms providing neither RPPs nor group RRSPs.

Recent immigrants

Of the one-third of recent immigrants (those who arrived in 1991 or later) who reported having an RPP or a group RRSP in their job, 27% worked for employers who did not provide a plan. This means that 9% of all recent immigrants reported, contrary to their employer, that they had at least one retirement plan—a proportion twice as high as observed among Canadian-born workers.

Table 2: Workers reporting at least one retirement plan

	Total	No plan in firm %
Both sexes	51.1	8.2
Men	52.0	9.0
Women	50.0	7.2
Age		
Less than 25	22.3	17.5
25 to 34	46.0	11.1
35 to 44	50.4	9.1
45 to 54	63.3	5.5
55 and over	55.6	5.0
Seniority		
Less than 2 years	26.8	19.0
2 to 5	42.2	11.8
5 to 10	53.2	7.5
10 to 20	64.8	6.5
20 or more	76.6	2.2
Education		
High school or less	39.4	10.7
Some postsecondary	49.6	12.1
Postsecondary certificate/diploma	55.1	7.8
University degree	64.7	2.8
Immigration status		
Canadian-born	51.6	7.2
Arrived 1991 or later	32.9	26.7
Arrived before 1991	54.2	9.2
Union status		
Non-member	40.8	12.3
Member	77.6	2.7
Region		
Atlantic provinces	54.4	4.0
Quebec	46.9	7.7
Ontario	53.9	8.7
Manitoba	60.6	5.9
Saskatchewan	56.9	3.9
Alberta	44.3	7.0
British Columbia	47.9	11.7
Employer characteristics		
Single location	38.1	15.2
Multiple locations	70.5	2.4
1 to 19 employees	21.2	29.2
20 to 99	44.7	14.5
100 to 499	64.7	3.6
500 or more	85.4	0.4
Manufacturing	52.3	8.2
Other goods	44.4	12.4
Finance and insurance, and communication and other utilities	72.8	0.7
Transportation, warehousing, wholesale and retail trade, and consumer services	35.6	17.4
Other services*	60.5	4.8

Source: Workplace and Employee Survey, 2001

* Real estate, rental and leasing operations, business services, education and health, information and cultural industries.

Features of RPPs and group RRSPs

Employer contributions are mandatory for RPPs, optional for group RRSPs.

Employers offering an RPP are required by law to contribute to it. In contrast, those offering a group RRSP may choose not to contribute—although the concept of employer contributions to group RRSPs is not well defined.

A group RRSP is simply a collection of individual accounts set up through the employer. The employer may put a certain amount of money into the plan for each contributor, or may contribute nothing and simply collect the employee contributions through payroll deductions. In either case, the employer will contract a financial institution (for example, a mutual-fund company) to invest the funds.

Because the federal Income Tax Act recognizes only contributions made by employees, employers contribute indirectly by increasing an employee's pay and then contributing the increase to the group RRSP through payroll deduction. The amount contributed by the employer is recorded on the employee's T4 slip as employment income. The employee can then claim the contribution as a tax deduction.

For instance, suppose Employee A is paid \$40,000 per year and offered the chance to contribute 5% of her salary to a group RRSP to which the employer also contributes 5%. If she agrees, her pay will be increased from \$40,000 to \$42,000, and then \$4,000 deducted (the employee contribution of \$2,000 and the pay increase of \$2,000) for investment with a financial institution. Employee A will report employment income of \$42,000 and claim a deduction of \$4,000 when filing her tax return.

Workers with the same employment income will have the same opportunity to prepare for retirement.

As long as the employment income shown on the T4 is the same, workers in firms offering a group RRSP but not contributing to it will have the same opportunity to prepare for retirement as their counterparts in contributing firms.

Compare the situation of Employee A to that of Employee B, paid \$42,000 but employed in a firm offering a group RRSP but not contributing to it. If Employee B decides to put \$4,000 into this group RRSP (the amount invested in the account of employee A), he can claim the amount as a tax deduction while also reporting \$42,000 of employment income.

The same reasoning can be applied to Employee C, also paid \$42,000 but employed in a firm offering no retirement plan. Employee C saves \$4,000 per year in an *individual* RRSP and gets the same rate of return as employees A and B who have group plans. (This may not always be the case, since the employers can sometimes bargain with financial institutions for better rates of return.) Employee C would be as well off as A and B.

Contrary to defined-benefit RPPs, group RRSPs do not guarantee workers a certain level of income at retirement.

At the beginning of 2000, about 85% of workers with an RPP had a defined-benefit plan. In the absence of business failure, most of these RPPs guarantee workers a certain retirement income, which usually increases with years of

service and pay. In contrast, group RRSPs, like defined-contribution RPPs, provide a retirement income that depends on the rate of return in the financial markets—which is subject to fluctuation.

Consequently, if they enjoyed high rates of return on their savings while they were in the labour market, workers in group RRSPs—like those in defined-contribution RPPs—could (but would not necessarily) end up with a higher retirement income than those in defined-benefit RPPs.⁸ They could also end up with a lower retirement income if the financial markets performed poorly.

Employees in defined-benefit RPPs also face some uncertainty regarding their retirement income.

While not subject to the investment risk faced by workers with group RRSPs, employees in defined-benefit RPPs who are laid off face some uncertainty regarding the level of income they will receive at retirement. Employees who spend their career with the same employer and have defined-benefit RPPs know in advance what their retirement income will be. However, if they are laid off they could end up with a lower retirement income than anticipated, if their benefits cannot be transferred from one plan to another.

To illustrate, suppose Mr. X works for the same employer for 35 years, earning \$40,000 a year for the first 15 years and \$80,000 for the last 20 years. If he belongs to a defined-benefit RPP that pays a benefit equal to 2% per year of service, based on average earnings during his last five years, Mr. X will have a retirement income of \$56,000 a year.

However, if Mr. X is laid off after 15 years and immediately finds a new job paying \$80,000 that he keeps for the next 20 years, he will end up with a retirement income of only \$44,000 if the benefits of his first plan are not portable. He will receive \$12,000 from his first RPP ($.02 \times 15 \times \$40,000$) and \$32,000 from his second RPP ($.02 \times 20 \times \$80,000$).⁹

In a group RRSP, the employee never loses employer contributions after leaving the firm.

Before the mid-1980s, workers with RPPs who were contemplating leaving a company had to think twice. If they quit, they would possibly not be entitled to their employer's contributions until age 45 and after 10 years of service. If they left before this period (the vesting period), they would receive only their own contributions, albeit usually with interest. Some firms did, however, offer better vesting rules.

During the mid-1980s and early 1990s, pension legislation was modified so that employees changing jobs were generally entitled to their employer's contributions after two years of service.¹⁰

In a group RRSP, an employee never loses employer contributions. The money (from both employer and employee contributions plus return on investment) can be transferred to an individual RRSP. The ability to collect employer contributions even after a short stay in a company (less than two years) may be attractive for highly mobile workers.

This discussion draws heavily on Cohen and Fitzgerald (2002), who provide an excellent survey of the various retirement programs in Canada.

Why are recent immigrants less informed about their retirement plans? Differences in educational attainment can be ruled out since recent immigrants are more educated than their Canadian-born counterparts (Table 3). Lower seniority and under-representation in large establishments (500 or more employees) and in unionized jobs, where the incidence of misinformation appears to be minimal, may explain part of the difference. However, even after controlling for these differences and other factors, at least 70% of the difference between recent immigrants and Canadian-born workers remains.¹¹

What explains the remaining difference? Despite their fairly high educational attainment, recent immigrants may have an imperfect knowledge of the labour market institutions in Canada. For instance, since they contribute through payroll deductions to the Canada or Quebec Pension Plan (C/QPP), some may think that these retirement plans are employer-sponsored. The data support this view. Among recent immigrants who reported having an RPP in their job, a solid 53% were in firms with no RPPs (Chart B). The corresponding numbers for Canadian-born workers and older immigrants were 15% and 20% respectively.

A key issue then is whether recent immigrants have realistic expectations about the fraction of employment income that C/QPP will replace at retirement.

Whatever the underlying factors, the consequence is that almost 1 recent immigrant in 10 appears to be seriously misinformed about their coverage in an employer-sponsored retirement plan.¹²

Conclusion

Given the increasing popularity of alternative retirement plans such as group RRSPs, assessing employee awareness of their coverage by some type of retirement plan in their job becomes more important. This is particularly true since group RRSPs, contrary to many RPPs, require workers to decide whether to participate and, if so, how much to contribute.

Unlike their employers, many workers do not have a clear understanding of the distinction between RPPs and group RRSPs.¹³

While only 4% of all full-time permanent employees in the private sector reported an RPP or group RRSP while being in a firm reporting neither, the corresponding proportion was twice as high among immigrants who arrived in Canada in 1991 or later. In fact, one in four recent immigrants who reported at least one type of employer-sponsored retirement plan in their job was actually working for a firm providing neither an RPP nor group RRSP.

In 1999, about one-third of families with a major income recipient aged 45 to 64 and still working had not saved enough to replace two-thirds of their income at retirement (Statistics Canada 2001). While savings insufficient to provide adequate income at retirement may result from income constraints, the misconception of having a private retirement plan may also be a contributing factor. To address this issue, it is important to emphasize differences between RPPs, group RRSPs and C/QPP and to provide workers with accurate information about the coverage and characteristics of their retirement plans. In this way, chances are increased that employees will make sound decisions about savings, consumption and retirement.

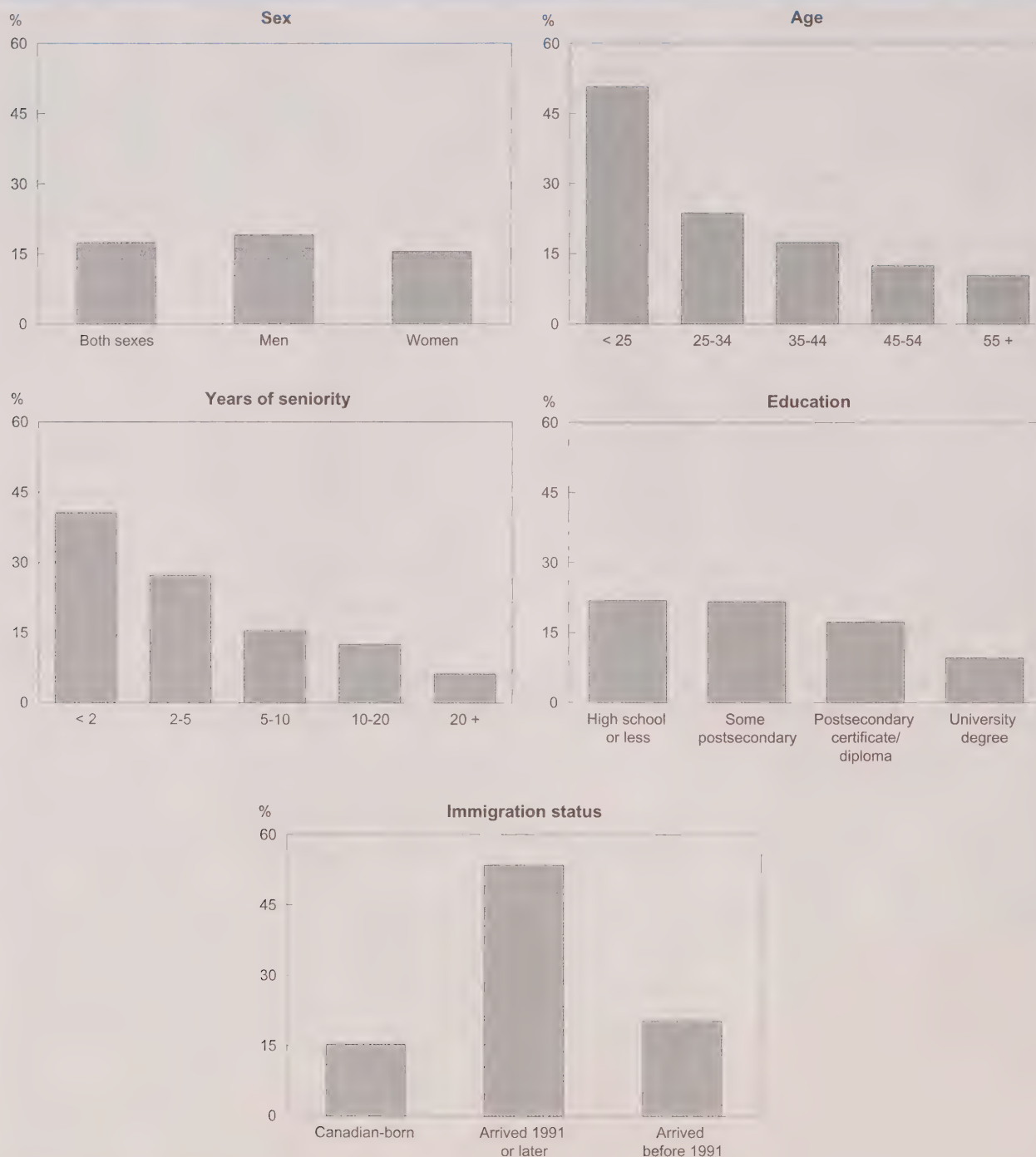
Table 3: Selected characteristics of immigrant and Canadian-born workers*

	Canadian-born	Arrived 1991 or later	Arrived before 1991
		%	
Education			
High school or less	30.5	23.1	26.2
Some postsecondary	24.9	15.9	20.9
Postsecondary certificate/diploma	26.2	28.5	31.3
University degree	18.4	32.6	21.6
Establishment size			
1 to 19 employees	28.7	33.2	26.0
20 to 99	30.1	33.7	28.0
100 to 499	18.2	21.5	21.1
500 or more	23.1	11.5	24.9
Less than 2 years seniority	19.8	40.1	13.0
Unionized workers	29.1	9.7	28.2

Source: Workplace and Employee Survey, 2001

* Full-time permanent employees

Chart B: Among full-time permanent employees, young workers and recent immigrants were the most likely to erroneously report having a registered retirement plan.



Source: Workplace and Employee Survey, 2001

■ Notes

1 See Mitchell (1987) and Starr-McCluer and Sundén (1999) for U.S. evidence on worker knowledge of pension provisions.

2 Deferred profit-sharing plans “permit employees to share in company profits. Employer contributions, either a percentage of profits or a fixed dollar amount, are set aside in a fund. A separate account is maintained for each member, credited with investment income and paid out at the employee’s death, retirement or termination.” (Frenken 1995, p. 10)

3 Throughout the decade, the vast majority of RPP members were in defined-benefit plans—89.8% in 1991 compared with 84.1% in 2000.

4 This compares favourably with the estimate derived from the 1999 Money Purchase Plan report by Benefits Canada, which found that 1.5 million people were enrolled in such plans. The report was based on a survey of the main financial institutions offering money purchase plans to employers.

5 Similarly, of the 732,000 workers who reported having a RPP but were in firms that did not offer one, 56% were in firms offering group RRSPs to at least part of their workforce (Table 1).

6 For the employer portion of WES, the primary respondent is the human resource manager in a large establishment or the business owner in a small establishment.

7 The differences across age groups observed in the second column of Table 2 vanish in a logit model where the probability of an individual working in a firm reporting no retirement plan—conditional on workers reporting at least one retirement plan—is modelled as a function of age, seniority, education, sex, union status, immigration status, industry, establishment size and an indicator of multi-establishment employer. However, workers with less than 2 years seniority remain more likely to be misinformed than those with 10 years or more in this model.

8 This is more likely to happen if workers in defined-benefit RPPs changed employers during their career and could not transfer their pension assets to their new employer’s RPP.

9 It is assumed here that both RPPs have the same benefit formula, and that the benefits from the first RPP cannot be transferred to the second RPP—which is the case for many defined-benefit RPPs offered in the private sector.

10 Under the new rules, vesting takes place after two years of participation in the plan, but only applies to employer contributions made after the effective date of the amend-

ments. For employees who became members of an RPP after these amendments, vesting applies to all employer contributions.

11 The differences between recent immigrants and Canadian-born workers, observed in Table 2, are examined using two separate logit models (where the set of covariates is defined above). For workers who reported having a retirement plan, an initial probability of misclassification of 7.2% is assumed (that observed for Canadian-born workers). Then, being a recent immigrant raises the probability of misclassification by 14 percentage points—that is, 72% of the difference found in the raw data. For all workers, an initial probability of misclassification of 3.7% is assumed (that observed for Canadian-born workers). Then, being a recent immigrant raises the probability of misclassification by 4.3 percentage points—that is 84% of the difference found in the raw data. The marginal effect of a discrete covariate k , ΔP_k , is evaluated around the mean P of the dependent variable using the following formula: $\Delta P_k = [1 + \exp(-x'b - b_k)]^{-1} - P$, where $x'b = \ln[P/(1-P)]$. See Gunderson, Kervin and Reid (1986), p. 267.

12 Federal/provincial regulatory pension legislation has certain disclosure rules, requiring employers to provide each RPP member with an annual statement showing such items as length of plan membership; amount of employee contributions (if required); estimates of future retirement benefits; and current benefits on termination, death or possibly disability. In the case of group RRSPs, financial institutions likely also produce an annual report for each member showing current market value of investments and the member’s equity. Even though these statements identify the plan, one can safely assume that few members would study them and make note of the type of plan referred to.

13 It is possible that some workers reported having no group RRSP or RPP while being in a firm offering one or both of these plans. Since participation in group RRSPs is generally optional while participation in RPPs is sometimes optional, sometimes compulsory, this study was not able to investigate whether such responses represent another form of misclassification.

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A C/QPP overview

Raj K. Chawla and Ted Wannell

THE CANADA PENSION PLAN (CPP) came into effect in January 1966 to supplement the retirement incomes of working Canadians and provide survivor benefits in the event of their death.¹ Contributions to the plan are mandatory for nearly all employed persons.

The CPP covers all provinces and territories except Quebec, which has opted to run its own plan—the Quebec Pension Plan (QPP). However, the two plans are similar and have full portability between them. Their administration is fully co-ordinated, and the maximum allowable benefits for retirement, disability, and survivors over age 65 are the same.

Although almost all Canadian workers belong to either the CPP or QPP, and the plans are considered main income pillars for seniors, some misunderstandings persist. For example, some people are not aware that they must apply for benefits—that these are not automatically triggered by age, retirement or disability. Also, some financial commentators continue to question the solvency of the CPP even though the Chief Actuary of Canada has certified its ability to meet obligations well into the future.

This article uses a question and answer format to provide some basic information on the Canada and Quebec Pension Plans, emphasizing recent changes that may not be well understood (see *C/QPP milestones*). It also highlights the increasing importance of C/QPP benefits for seniors in recent decades and the interaction of the plans with other income support programs.

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C/QPP milestones

1966: The plans came into effect. The federal government and nine provinces agreed on CPP while the province of Quebec opted to operate its own plan.

1970: The first disability pension was paid.

1974: Annual adjustments were introduced to reflect the full cost-of-living increase as measured by the Consumer Price Index.

1975: The CPP no longer required persons aged 65 to 70 to retire from regular employment before receiving benefits. The QPP followed suit in 1977.

1976: Full retirement benefits became payable on the plans' 10th anniversary. From 1967 to 1975, 10% of the potential maximum retirement benefits were paid.

1978: Splitting of CPP pension credits earned during a marriage was allowed in the event of a divorce or annulment.

1980: Employment of a spouse in an unincorporated family business was considered pensionable employment if the remuneration was deducted under the Income Tax Act.

1987: Persons were allowed to claim reduced benefits at 60 or increasing benefits after 65 up to age 70. Also, the contribution rate began to increase.

1988: Contributions were changed from a tax deduction to a non-refundable tax credit of 17% of contributions.

1998: The CPP Investment Board was created to manage and invest accumulated savings and contributions not used to pay benefits.

1999: The QPP extended benefits to common-law (including same-sex) surviving partners. The CPP implemented this provision in 2000.

Source: Anderson (2003)

Who is covered?

The plans cover all employed persons between the ages of 18 and 69 with earnings above an annual minimum (\$3,500 in 2003) with certain exceptions: migratory agricultural and related enterprise workers, casual

workers, exchange teachers, members of religious orders, members of the Canadian Forces or the RCMP, those employed by a foreign government, those employed in international transportation, or Indians as defined in the Indian Act (for more details, see CCH Canadian 1999).

How are the plans funded?

The plans are funded primarily through premium payments by workers and their employers. Assets accumulate when contributions received exceed benefits. Over time, then, a second component is investment income on these assets.

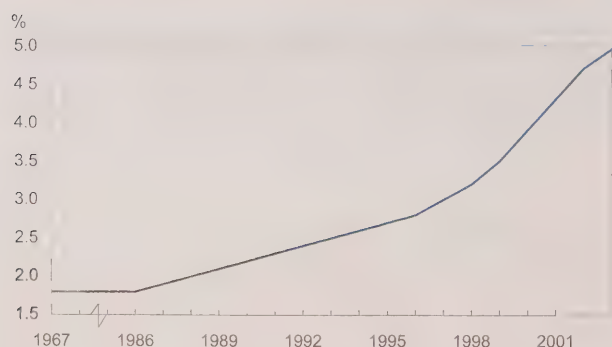
How are contributions calculated?

In 2003, employees paid 4.95% of all earnings up to \$36,400—resulting in a maximum annual contribution of \$1,801.80. Employers match these contributions so that total premiums equal 9.9% of maximum contributory earnings. Self-employed workers must cover both the employer and employee portion of the contributions, and so contribute the full 9.9% (to a maximum \$3,603.60 in 2003).

Has the contribution rate been rising?

Yes. In 1967, an employee paid 1.8% of yearly contributory earnings to a maximum of \$4,400 (or \$79.20), with the employer paying a matching share. This rate remained in effect until 1986. Over the following decade, the rate rose by 0.1 percentage points per year, reaching 2.8% in 1996 (Chart A). Larger increases followed. In 2003, the rate reached a new plateau, 4.95%, which should hold for some years.

Chart A: CPP employee contribution rate.

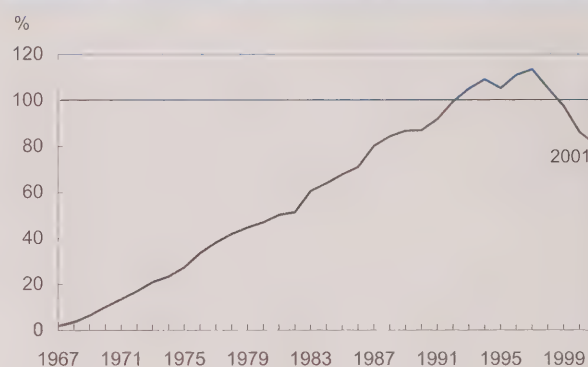


Source: HRDC, *The ISP Stats Book 2003*

Why has the contribution rate risen?

The CPP was established as a pay-as-you-go system with the premise that the contribution of current workers plus the surpluses invested while the plan matured would always be sufficient to meet current payouts. The system was meant to be self-funded with no reliance on general revenues of either the federal or provincial government. Because of changing demographics, enriched benefits, and increased

Chart B: Expenditure/revenue ratio for the C/QPP, 1967 to 2001.



Source: *System of National Accounts*

disability benefits, payouts exceeded premiums by the early 1990s (Chart B).² The subsequent premium increases led to renewed annual surpluses by 1999.

Is the CPP now in a surplus position?

Although the CPP is now accumulating annual surpluses, these funds will be required in the future to pay benefits to the increasing number of retirees. Since 1998, the plan has been operating under 'steady-state financing,' which requires that contribution rates be sufficient to ensure the plan's long-term financial stability without recourse to further rate increases (HRDC 2002). The intent of these changes is to finance the plan collectively so that no individual or generation will contribute disproportionately.

How are the funds managed?

The CPP currently has two investment components. The CPP Investment Fund consists of long-term government bonds issued before 1998.³ Since 1999, the CPP Investment Board has been managing net inflows from contributions, investing in equity indexes.

Legislation passed in April 2003 will eventually bring both components under the management of the CPP Investment Board. Assets of both components totalled \$52 billion (or about 2.5 years of benefits) in March 2002.

QPP funds are managed by the Caisse de dépôt et placement du Québec. The Caisse also manages funds for other public-and private-sector depositors and invests in a wide range of asset classes.

What types of benefits are available?

The plan provides retirement and disability benefits to participants, and survivor and death benefits to their families.

Retirement benefits are based on 25% of pensionable earnings, adjusted for growth in the annual maximum pensionable earnings averaged over the previous five years. Benefits are reduced if the participant opts to receive them before age 65 (as early as 60) and increased if initial receipt occurs after 65 (see *C/QPP benefits*).

C/QPP benefits

Retirement benefits

A C/QPP retirement pension is about 25% of a person's average pensionable earnings, adjusted to reflect the average of the last five-year maximum pensionable earnings.

Full benefits are payable at age 65, but may begin as early as 60. Between age 60 and 65, the pension is reduced by 0.5% for each month (6% a year) preceding the 65th birthday, and increased the same amount for every month it is deferred past 65. In other words, contributors could decide to draw 100% of their benefits at age 65, 70% at age 60, or 130% at age 70. Those waiting until after 70 are not entitled to more than the 30% increase. After age 65, a retirement pension can be drawn irrespective of any other source of income. After 70, no contributions are made to the plan.

Contributors receive the maximum retirement pension at age 65 provided they have made contributions each year at the maximum level over the contributory period. Also, spouses in an ongoing relationship who are both contributors may share their retirement pension payments if they are 60 or over. The shared portion depends on the time spouses have lived together during their contributory periods and cannot exceed 50%.

Disability pension

Individuals are considered disabled if they are unable to pursue any substantially gainful employment because of a physical or mental disability. A person applying for a disability pension must supply the Minister of Human Resources Development Canada (HRDC) with a medical report on the disability along with a statement of earnings, education, employment, occupation, and day-to-day activities. Under current rules, to qualify for disability benefits, a person must have contributed to the plan for at least four of the previous six years. The monthly disability pension is a fixed sum plus 75% of the contributor's retirement pension. If approved, the pension commences in the fourth month following the month in which the contributor is considered to have become disabled. Since these benefits are not pensionable earnings, recipients are not required to make C/QPP contributions.

The disability pension stops in the month in which the recipient is no longer considered disabled, or at age 65 (when the disability pension is replaced by a retirement pension), or the month of death.

Children of disabled contributors also receive a pension if the contributor qualifies.

Survivor benefits

Pensions are payable to surviving spouses and dependent children provided the deceased contributor had contributed for the minimum qualifying period—one-third of the time between age 18 and date of death (minimum of three years) or 10 years, whichever is less. A surviving spouse aged 65 and over who has not contributed to the plan is entitled to receive 60% of the deceased contributor's retirement pension. Between age 45 and 64, a fixed monthly sum plus 37.5% of the deceased contributor's retirement pension is paid. Under 45, benefits are further reduced by 1/120 for every month the spouse is less than 45. Under 35, with neither disability nor dependent children, surviving spouses are not entitled to benefits until they reach 65. If a surviving spouse is entitled to both a disability and survivor pension, the combined amount cannot exceed the maximum disability benefit. Benefits are not terminated on re-marriage.

Death benefits

This benefit is paid as a lump sum to a deceased contributor's spouse or estate. It amounts to six times the deceased contributor's monthly pension, to a maximum of \$2,500.

Once benefits have been established, they are adjusted each January by the annual rate of inflation measured in terms of the increase in the consumer price index as of the previous September.

Under the Income Tax Act, C/QPP benefits received are taxable. Prior to 1988, contributions were tax deductible, but have since changed to a non-refundable tax credit of 17% of contributions.

Disability benefits are paid to participants who are unable to be gainfully employed because of a physical or mental disability, verified by a medical examination. Disability benefits combine a flat rate with 75% of the recipient's retirement benefit entitlements.

Survivor benefits are available to the spouses and dependent children⁴ of deceased participants who contributed to the plan for at least 120 months. Benefits are based on the participant's accumulated entitlements and the characteristics of the survivors. Survivors can also apply for a one-time death benefit (maximum of \$2,500 in 2003).

Benefits are not sent out automatically. A retiree or their spouse, survivor, beneficiary, or estate must apply to Human Resources Development Canada for CPP benefits or to the Régie des rentes du Québec for QPP benefits.

How do these benefit calculations translate into dollar values?

In July 2003, the maximum C/QPP benefits were \$801.25 per month for retirees, \$971.26/\$971.23 for disability recipients, and \$480.75 for survivors aged 65 and over.⁵ However, these maximums apply only to participants who contributed the maximum premi-

ums over the entire contributory period. Given varying contribution histories, benefit choices and demographic profiles, average benefit levels are somewhat lower, and differ between CPP and QPP recipients.

In July 2003, the average retirement benefit paid by the CPP was \$448.21 (56% of the maximum) compared with an average disability benefit of \$792.55 (82% of the maximum). The corresponding amounts from the QPP were \$370.99 and \$789.92—or 46% and 81% of the maximums (Table 1).

How many people are receiving benefits?

In July 2003, over four million people received \$1.9 billion in benefits. Of these, 2.9 million received retirement benefits, 924,000 survivor benefits, and 287,000 disability benefits. Retirement benefits accounted for 71% of CPP payouts, survivor benefits for 14%, and disability for 12%.

The situation was similar for the QPP. The three main benefits accounted for 98% of the total: 70% for retirement, 20% for survivor, and 9% for disability. Of the 1.4 million beneficiaries, 1.0 million received retirement benefits and only 60,000 claimed disability benefits.

Table 1: Benefits paid under CPP and QPP, July 2003

	Canada Pension Plan				Quebec Pension Plan			
	Number*	Amount	Maximum	Average	Number*	Amount	Maximum	Average
		Million (\$)	\$	\$		Million (\$)	\$	\$
Retirement (at 65)	2,931,200	1,313.8	801.25	448.21	1,034,800	383.9	801.25	370.99
Disability	287,300	227.7	971.26	792.55	59,500	47.0	971.23	789.92
Survivor (spouses)	923,600	260.3	...	281.83	319,400	107.4	...	336.26
Under 65	230,400	75.4	444.96	327.26	83,800	46.4	700.06**	553.70
65 and over	693,200	184.9	480.75	266.73	235,600	61.0	480.75	258.91
Children of disabled contributors	94,400	21.4	186.71	226.69	7,400	0.6	59.28	81.08
Children of deceased contributors	90,200	18.1	186.71	200.67	19,700	1.2	59.28	60.91
Death	8,800	19.4	2,500.00	2,204.55	3,100	7.1	2,500.00	2,290.32
Total	4,335,500	1,860.7	...	429.18	1,443,800	547.2	...	379.00

Source: HRDC, Income security programs

* Some people may receive more than one benefit.

** If the survivor is aged 55 to 64 years, \$670.76 if the survivor is 45 to 54.

Administration of the CPP and QPP

The CPP is a separate account established by the Government of Canada. It records contributions, pensions and other benefits paid, interest income, and other administrative expenditures. The contributions are collected by the Canada Customs and Revenue Agency; benefits are determined and paid out on application to Human Resources Development Canada (HRDC). Any change in the rate of contribution, type and level of benefits, investment policy, or administration must be done through an act of Parliament. Changes require the agreement of at least two-thirds of the provinces representing at least two-thirds of the population.

As joint stewards of the CPP, the federal and provincial ministers of finance review the plan's financial situation every three years and make recommendations on changes to benefits or contributions. (They last met in December 2002.) Their decision is based on factors such as changing demographics, the economic situation, and the Chief Actuary's report on the financial soundness of the plan in the short, medium and long term. Under the legislation, this report is required every three years (in the year before the legislated ministerial review of the plan). The investment of unused annual contributions along with other accumulated investments are administered by the CPP Investment Board, created in 1998, which operates at arm's length from government.

The QPP is administered by the Régie des rentes du Québec, and its funds are managed by the Caisse de dépôt et placement du Québec, which operates independently from the Quebec government. The province of Quebec participates in all decisions affecting the CPP.

Dispute resolution

The CPP provides appeal procedures to resolve conflicts pertaining to both contributions and benefit claims. In the case of contributions, employees, employers or their representatives may appeal to the Minister of Revenue. If the Minister's decision is not acceptable, then within 90 days from the date of decision, a person can appeal to the Tax Court of Canada, whose decision is final and binding (subject to judicial review by the Federal Court). Similarly, beneficiaries or their representatives may file an appeal with the Minister of HRDC to review benefit claims. If the Minister's decision is not acceptable, it can be appealed within 90 days to the Office of the Commissioner of Review Tribunals. If this decision is not acceptable to either HRDC or the applicant, the appeal can be made to the Pension Appeals Board, whose decision is final (subject to judicial review by the Federal Court).

Are more people receiving benefits than in the past?

Yes. As the plan was phased in, recipient ranks grew rapidly. According to Human Resources Development Canada, 5.4 million persons received C/QPP benefits in 2001 compared with 1.8 million in 1981—a threefold increase over 20 years. Three-quarters of the net increase in recipients can be attributed to expanding numbers of seniors and higher rates of receipt.

According to the Survey of Labour and Income Dynamics, 3.4 million families, more than a quarter (27%) of the total, received benefits from the C/QPP in 2001. In 1981, just 1.3 million families received benefits (based on the Survey of Consumer Finances). Over the same period, total benefits paid by C/QPP jumped from \$3 billion to \$26 billion. On average, recipients in 2001 received \$4,800—three times more than their counterparts in 1981 (unadjusted for inflation).

Table 2: Families with C/QPP benefits

	1981			2001		
	All families	Receiving C/QPP	Benefits	All families	Receiving C/QPP	Benefits
	'000		Millions (\$)	'000		Millions (\$)
Total	9,132.3	1,327.0	2,668.9	12,601.9	3,383.9	23,921.1
Age of major income recipient						
Under 55	69.0	3.0	13.1	63.4	3.3	6.1
55 to 64	14.0	13.1	13.6	14.8	33.2	16.7
65 and over	17.0	62.4	73.2	21.8	91.1	77.2

Sources: Survey of Consumer Finances, 1982; Survey of Labour and Income Dynamics, 2002

Do C/QPP benefits constitute a larger part of family income than in the past?

Yes. C/QPP benefits accounted for 16% of family income in 2001 compared with 10% in 1981, even as average income of recipient families grew by 17%. (Table 2).⁶

Over the same 20-year period, mean real income of the elderly with C/QPP benefits rose 22%—from \$35,700 to \$43,600. C/QPP benefits contributed 17 cents to each dollar of income in 2001 compared with 11 cents in 1981.

Moreover, the gap between incomes of the elderly and of families with a major income recipient under 55 years narrowed considerably—from 32% in 1981 to 11% by 2001 (Table 3).

The influence on family incomes should continue to grow as more participants retire with full or nearly full benefits and the number of beneficiaries per family climbs as a result of the increased participation of women in the labour force.

Do C/QPP benefits help keep families out of low income?

Yes. In 1981, 42% of all recipient families would have fallen into low income if not for their C/QPP benefits. By 2001, this proportion of vulnerability reached 85%.

Among elderly families, fewer with C/QPP benefits had low incomes than those without benefits. However, non-elderly families with C/QPP benefits had a greater incidence of low income.

Is there a relationship between the C/QPP and Old Age Security?

No. The Old Age Security (OAS)⁷ program predates the C/QPP and is the other main government transfer to senior families. Unlike C/QPP retirement benefits, OAS payments are based on residency rather than past contributions. Another difference is that OAS payments can be reduced (“clawed back”) at higher income levels, whereas other sources of income do not affect C/QPP retirement benefits. As more senior families have become eligible and the average retirement benefit has increased, the C/QPP has become the larger source of income.

In both 1981 and 2001, these two programs provided the lion's share of government transfer payments to senior families, at 92% and 91% respectively (Table 4). In 1981, OAS was the more important, accounting for 62% of transfers compared with 30% from the C/QPP. Twenty years later, the C/QPP share had jumped to 43% while OAS had dropped to 48%.

Table 3: Average income and C/QPP benefits received by families by age of major income recipient

	No C/QPP			Receiving C/QPP				
	Total	In low income	Average income	Total	In low income	Average income	C/QPP benefits	
							Average	Share
	'000		2001 \$	'000		2001 \$		%
1981 Families	7,805.3	1,554.8		1,327.0	376.7			
	%			%				
All ages	100.0	19.9	53,700	100.0	28.4	38,500	4,000	10.3
Under 55	78.3	16.3	55,900	14.3	23.9	52,500	3,600	6.9
55 to 64	14.2	17.3	57,600	12.7	29.0	38,800	4,300	11.0
65 and over	7.5	62.6	23,000	73.0	29.1	35,700	4,000	11.2
	'000			'000				
2001 Families	9,218.0	1,757.1		3,383.9	662.5			
	%			%				
All ages	100.0	19.1	61,900	100.0	19.6	45,000	7,100	15.7
Under 55	83.9	18.2	61,400	7.8	29.5	48,900	5,500	11.3
55 to 64	13.5	17.8	69,700	18.3	22.0	49,000	6,400	13.2
65 and over	2.6	53.3	38,300	73.9	17.9	43,600	7,400	16.9

Sources: Survey of Consumer Finances, 1982; Survey of Labour and Income Dynamics, 2002

Table 4: Government transfers and role of C/QPP and OAS benefits by age of major income recipient

	No C/QPP				Receiving C/QPP				
	Average transfers	Share of family income	Composition		Average transfers	Share of family income	Composition		
			Old Age Security	Other*			Old Age Security	C/QPP	Other**
	2001 \$		%		2001 \$		%		
1981	3,300	6.1	23.1	76.9	12,000	31.2	53.0	33.0	14.0
Under 55	2,600	4.7	2.7	97.3	8,700	16.5	15.2	41.8	43.0
55 to 64	3,000	5.3	8.6	91.4	8,300	21.4	14.9	51.6	33.5
65 and over	10,100	44.1	87.0	13.0	13,300	37.3	62.0	29.9	8.1
2001	3,200	5.2	7.1	92.9	15,100	33.5	40.1	46.9	13.0
Under 55	3,000	4.9	0.0	100.0	9,900	20.2	0.3	56.1	43.6
55 to 64	3,000	4.2	1.6	98.4	9,400	19.2	1.9	68.7	29.4
65 and over	12,100	31.5	70.2	29.8	17,000	39.1	47.7	43.3	9.0

Sources: Survey of Consumer Finances, 1982; Survey of Labour and Income Dynamics, 2002

* Total government transfers (see Data sources and definitions) less OAS/GIS/SA benefits.

** Total government transfers (see Data sources and definitions) less OAS/GIS/SA and C/QPP benefits.

Data sources and definitions

HRDC's *The ISP Stats Book 2003*, and the *2001/2002 Annual Report of the CPP*; Canada Customs and Revenue Agency statistics for the calendar year 2001; Statistics Canada's CANSIM database.

The 1982 **Survey of Consumer Finances (SCF)** for 1981 income, and the 2002 **Survey of Labour and Income Dynamics (SLID)** for 2001 income. The survey estimates of C/QPP benefits compared well with the administrative data—85.1% for the 1982 SCF compared with 91.7% for the 2002 SLID. The higher reconciliation with SLID is largely due to the authorized matching of respondents' tax records compared with personal interviews in the SCF. Estimates from the surveys are subject to sampling and non-sampling errors.

Yearly maximum pensionable earnings (YMPE): Approximates the average Canadian wage based on Statistics Canada's industrial aggregate wage.

Yearly basic exemption (YBE): roughly 10% of the YMPE. Since 1996, its value has been fixed at \$3,500.

Yearly maximum contributory earnings (YMCE): Equals (YMPE – YBE). The rate of C/QPP contribution is applied to these earnings in order to calculate a person's annual contribution.

Family refers to economic families and unattached individuals. An economic family is a group of persons sharing a common dwelling and related by blood, marriage (including common law) or adoption. An unattached individual lives alone or with unrelated persons.

An elderly family is one with a major income recipient aged 65 or over.

Spouses include common-law and same-sex partners.

Major income recipient: the person in the family with the highest income before tax. If two persons have exactly the same income, the older one is considered the major income recipient. The concept of major income recipient was used for the 2001 income data from the Survey of Labour and Income Dynamics (SLID). For 1981 income data from the Survey of Consumer Finances (SCF), the age of the family head was used. The husband was treated as the head in husband-wife families, and the parent in lone-parent families. The two concepts are not identical but similar enough not to distort any comparison of family income between 2001 and 1981.

Pre-tax family income: Sum of incomes received from all sources by family members, aged 16 and over for SLID, and 15 and over for SCF, over a calendar year. Sources include wages and salaries, net income from farm and non-farm self-employment, investment income (interest earned, dividends, net rental income, etc), government transfers, retirement pension income, and alimony. Excluded are income in kind, tax refunds, and inheritances.

Government transfers: All direct payments from federal, provincial and municipal governments to individuals or families. These include child tax benefits, Old Age Security, Guaranteed Income Supplement (GIS), Spouse's Allowance (SA), C/QPP benefits, Employment Insurance benefits, social assistance, workers' compensation benefits, GST and provincial tax credits, and other government transfers.

Low-income family: Families are classified using the pre-tax, low-income cutoffs for 1981 and 2001 (1992 base), published by Statistics Canada. For more details, see *Income in Canada, 2001* (Catalogue no. 75-202-XIE).

Benefit formulas

Retirement: 25% of a worker's average monthly adjusted pensionable earnings, or

$(TPE_t/TNMC) \cdot 0.25$ where TPE_t is total pensionable earnings in year t , and

TNMC is the total number of months of contributions (minimum 120).

$$TPE_t = \frac{AYMPE_t \cdot YMPE_t \cdot NMC_t}{12 \cdot YMPE_t}$$

where $YMPE_t$ is yearly maximum pensionable earnings in year t , NMC_t is number of months of contributions by year t , and

$$AYMPE_t = \frac{YMPE_t + YMPE_{t-1} + YMPE_{t-2} + YMPE_{t-3} + YMPE_{t-4}}{5}$$

is 5-year average of $YMPE$ in year t .

The concept of using a five-year average of $YMPE$ was introduced in 1999; a four-year average was used in 1998 and a three-year average prior to 1998.

Disability: (Retirement $\cdot 0.75$) + disability flat rate.

Survivor aged less than 65: (Retirement $\cdot 0.375$) + survivor flat rate.

Survivor aged 65 or over: (Retirement $\cdot 0.60$).

Death: ($YMPE \cdot 0.10$), limited to \$2,500.

Combined survivor/disability: ($AYMPE \cdot 0.25$)/12 + disability flat rate up to the amount of disability.

Combined retirement/survivor: ($AYMPE \cdot 0.25$)/12.

In 2002, the disability flat rate was almost the same under both the CPP and QPP—\$364.49 and \$364.46 respectively. However, the survivor flat rates and benefits for children varied between the two plans.

Source: HRDC, *The ISP Stats Book 2003*.

Even among senior families not receiving C/QPP benefits, OAS payments represented a declining proportion of both income and transfers. In 1981, such families received 44% of their income in transfers, and 87% of these transfers were simply the OAS benefits. Twenty years later, they were receiving 32% in transfers with 70% being OAS benefits.

Summary

- The Canada and Quebec Pension Plans are mandatory for nearly all workers.
- The plans provide pension and disability benefits to participants, and survivor and death benefits to their families.
- The C/QPP is funded by employee and employer contributions and investment income on the accumulated annual surpluses. A change to steady-state financing ensures the long-term actuarial stability of the plans and increases intergenerational equity.
- Contribution rates have increased to support the fiscal position of the plans, from 1.8% of maximum pensionable earnings in 1986 to the 2003 level of 4.95%. This rate is paid by both employees and employers, so the self-employed pay a rate of 9.9%.

- In July 2003, the maximum retirement benefit was \$801.25. The average, however, was much lower: \$448.21 for the CPP and \$370.99 for the QPP.
- In 2001, 91.1% of elderly families received C/QPP benefits, averaging one-sixth of their total income.
- C/QPP payments have been growing in importance relative to the other main transfer to elderly families—Old Age Security.

Perspectives

■ Notes

1 Besides C/QPP retirement benefits, Canadians draw income from the publicly funded Old Age Security program, employer pension plans, RRSPs, annuities, earnings, personal savings, and other social assistance. Income in kind and the imputed value of owner-occupied homes are excluded.

2 Canada's population is aging. In 2002, those 60 and over accounted for 17.0% of a population of 31.4 million, compared with 11.6% of the 22 million in 1971. As a result, the number of contributors to the C/QPP is likely to fall whereas the number of recipients will rise, resulting in a lower contributor/recipient ratio. In 2001, there were 342 recipients for every 1,000 contributors, compared with 122 in 1981.

In recessionary periods, the relatively higher rate of unemployment coupled with stagnant earnings may adversely affect C/QPP revenues but not expenditures (assuming that the recession does not encourage some to retire).

Persons claiming CPP disability benefits increased from 90,522 in 1981 to a peak of 298,966 in 1996, dropping to 281,263 by 2002; QPP numbers for the same years showed a steady increase—22,037; 47,460; and 57,041.

3 Provinces have the option to renew maturing bonds for one term at market rates.

4 Dependent children fall into two categories: under 18 years of age, or 18 to 25 and attending college or university full time.

5 In 2001, the maximum monthly retirement benefit from the C/QPP was \$775, or \$9,300 a year, which in turn was less than the 1992-base low-income cutoff, which ranged from \$10,201 for an unattached individual in a rural area to \$15,559 for someone in an urban area with a population of 500,000 or more.

6 The focus in this section is a family, including unattached individuals, since family income is a better measure of a family's economic well-being. Since unattached individuals could form a family over time and vice-versa, the analysis in this part is based using family as a unit (including unattached individuals).

7 The OAS program provides a flat rate pension to Canadians aged 65 years and over. The amount depends on the recipient's age and years of residency in Canada (minimum 10). Full benefits are paid after 40 years of residency. Although the basic pension is paid to all those eligible, it can be clawed back, depending on income, when the income tax

return is filed. In 2002, those with incomes up to \$57,879 kept the full benefits; those between \$57,880 and \$92,434, partial; and those with \$92,435 and over, none. OAS benefits are adjusted quarterly by the change in the consumer price index (CPI). In the calendar year 2002, the average monthly OAS payment was \$431.62. OAS benefits are taxable.

Under the Old Age Security Act, a recipient of OAS benefits may receive a Guaranteed Income Supplement (GIS), depending on source and amount of income. This supplement is also adjusted quarterly by the change in the CPI. The average monthly GIS payment in 2002 was \$321.56. Also pensioners' spouses and widowed persons aged 60 to 64 who have lived in Canada for a minimum of 10 years after age 18, and who qualify after an income test, are eligible to receive a monthly Spouse's Allowance or Widowed Spouse's Allowance. Its average monthly payment was \$360.54. For more details on these programs, see CCH (1999) or HRDC (2003).

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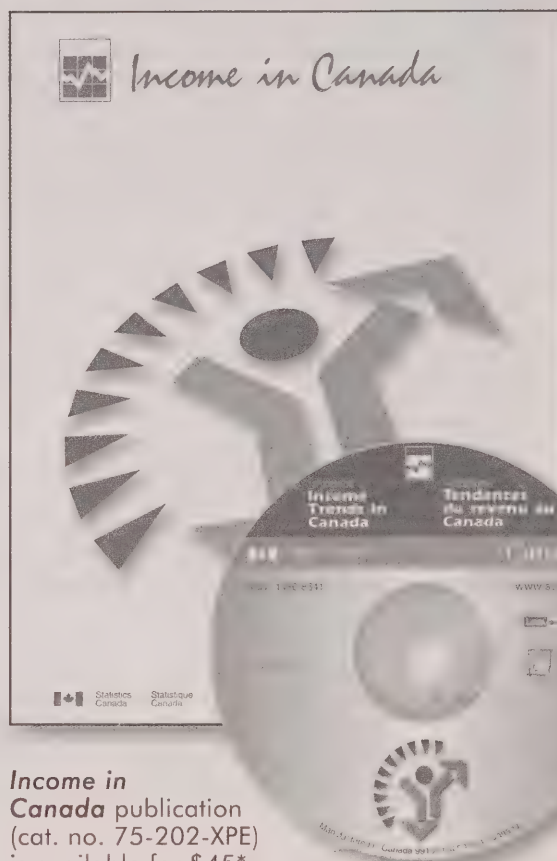
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More seniors at work

Doreen Duchesne

CANADIAN LIFE EXPECTANCY ranks among the highest in the world—77.1 years, on average, for boys born in 2001, and 82.2 for girls. Only eight decades ago, life expectancies were 59 and 61 years respectively, and most workers who had the financial wherewithal to retire could expect to enjoy only a handful of years before death. Today, however, many live two or more decades after retirement.

Moreover, with continuing medical advances, more of these senior years are spent in good health. Recent studies show a correlation between good physical health and the preservation of cognitive abilities, even into the 90s. “It is now clear that significant cognitive decline is not an inevitable consequence of advanced age.” (Anderson and Grabowski Jr. 2003)

While medical findings argue for healthy, aging individuals to remain in the workforce, recent trends have been in the opposite direction. Workers who find their work tedious or stressful are apt to consider retiring at a relatively early age while they are still in good health. This is reflected by the decline in the median retirement age, from 65.0 years in 1976 to 60.6 in 2002.

However, an increasing number of older workers have no intention of joining the ranks of early retirees. Indeed, in 2001, 1 in 12 seniors aged 65 or older had a job. This proportion has been rising in recent years and is likely to keep doing so in the foreseeable future (Duchesne 2002; Walsh 1999).

Why are so many seniors still at work? Many enjoy their job so much that they are content to continue working indefinitely or until forced into retirement by ill health or age-related employment policies (see *Mandatory retirement*). Others are unwilling or unable—for economic, psychological or other reasons—to stop working ‘cold turkey.’ For these people, the solution may involve a transition to retirement, such as post-

career ‘bridge-to-retirement’ employment,¹ semi-retirement in the guise of part-time work, or unpaid work in a family business.

Transitions can be very complex. Some people repeatedly drop into and out of retirement before making a permanent exit from the labour market. Indeed, most recently retired workers experience a ‘honeymoon’ period that can last from a few months to two years. Following that phase, retirees often become disenchanting and feel they need something more in their life. For many, that means a return to work, even if only for a few hours a week.

This article draws on the 2001 Census to update an earlier study (Duchesne 2002). It focuses on the occupations of seniors who continue to work beyond age 65—the traditional age of retirement.

The ranks of working seniors continue to grow

Over 300,000 Canadians aged 65 and over were employed in the 2001 Census reference week, accounting for 1 in 12 persons that age (Table 1). An

Table 1: Labour market activity of seniors

	Both sexes	Men	Women
		'000	
Population 65 and over	3,625	1,592	2,033
Labour force	321	217	104
Employed	305	207	98
65 to 69	174	117	57
70 to 74	78	54	25
75 to 79	35	24	11
80 and over	19	12	6
Unemployed	16	10	6
Not in labour force	3,303	1,375	1,929
		%	
Employment rate	8.4	13.0	4.8
Unemployment rate	5.1	4.6	6.0
Participation rate	8.9	13.6	5.1

Source: Census of Population, 2001

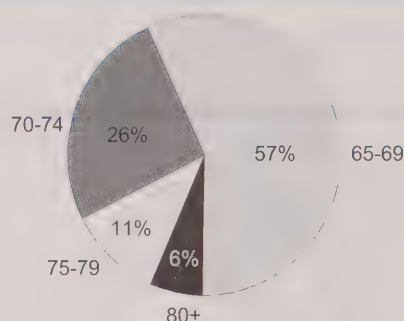
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additional 16,000 were unemployed, for a total labour force of 321,000. 'Young' seniors (65 to 69) accounted for well over half (57%) of workers 65 and older in 2001. Those 70 to 74 made up an additional 26%, and those 75 or older 17% (Chart A).

Although women made up the majority (56%) of the population 65 and over, most of the employed were men (68%)—proportions virtually unchanged from the 1996 Census. In comparison, men accounted for only 52% of employed persons aged 25 to 54 (baby-boom and post baby-boom generations). The relatively high proportion of men among employed seniors likely results from the much lower labour force participation of senior women in their younger years when social expectations were different than they are for working-age women today.²

Between 1996 and 2001, the ranks of working seniors rose faster than their population, 20% versus 11%. As a result, the employment rate of seniors increased from 7.8% to 8.4%. Also, the average working senior has been getting older. In 1996, 40.5% of employed seniors were 70 or older, compared with 43.0% in 2001.³

Chart A: Over 4 in 10 employed seniors are 70 or older.



Source: Census of Population, 2001

Table 2: Educational attainment of seniors by labour force status

	Population		Employed		Not employed	Em- p- loy- ment rate	Popu- lation 15 to 64
	'000	%	'000	%	%	%	%
Total	3,625	100.0	305	100.0	100.0	8.4	100.0
Less than grade 9	1,181	32.6	57	18.8	33.8	4.9	5.8
Some high school	896	24.7	66	21.5	25.0	7.3	20.9
High school graduation	404	11.2	31	10.3	11.2	7.8	14.6
Postsecondary							
Non-university*	689	19.0	73	23.8	18.6	10.5	30.5
No certificate or diploma	145	4.0	12	4.0	4.0	8.4	6.9
Certificate or diploma	544	15.0	61	19.8	14.6	11.1	23.7
Trades	307	8.5	36	11.7	8.2	11.6	10.5
Other	237	6.5	25	8.1	6.4	10.5	13.2
University**	454	12.5	78	25.6	11.3	17.2	28.2
Some	192	5.3	26	8.5	5.0	13.5	11.3
Degree	263	7.2	52	17.1	6.3	19.9	16.9

Source: Census of Population, 2001

* Community colleges, CEGEPs, institutes of technology, private business colleges, and nursing and other vocational schools; also apprenticeship or journeyman's training.

** Some may also have non-university certificates or diplomas, or university certificates or diplomas below the bachelor level.

Working seniors are generally better educated

Highly educated individuals are much more likely than those with less schooling to continue working beyond the traditional age of retirement (Chart B). In 2001, 1 in 5 seniors with a university degree was employed, compared with only 1 in 20 with less than a grade 9 education (Table 2).

As a group, seniors have less education than younger Canadians. One-third of all persons 65 and over had less than grade 9, compared with just 6% of those 15 to 64. Seniors with jobs were apt to be better educated than those not working, however. Over one-quarter of those working had at least some university education (26%), compared with 11% of those not employed.

Why are well-educated seniors so keen to work? In part, jobs requiring high or specialized education tend to be less physically demanding, so physical limitations are less likely to lead to retirement. Also, these jobs usually pay better, so the opportunity cost of retirement may

Mandatory retirement

In tandem with a growing number of prominent (Jean Chrétien and Paul Martin) and not-so-prominent working seniors, public debate concerning mandatory retirement has been mounting in recent years—fuelled by the huge cohort of baby boomers approaching retirement age. An important social and economic issue, mandatory retirement is very controversial since it requires balancing the needs and rights of both older workers and employers.

Many arguments have been put forward favouring and opposing mandatory retirement (usually at age 65). Some of those in favour feel that it provides savings on salaries and wages, since the oldest workers are often at the top of their salary scales. Employers may also find it easier to plan staffing and training activities. Other proponents have suggested that the removal of a mandatory retirement age could result in some workers losing their job at an earlier age, particularly those with medical problems or whose work has deteriorated.

On the other hand, opponents of mandatory retirement argue that the oldest employees have the most experience. Some have vast stores of corporate knowledge, while others have specialized qualifications that are difficult for an employer to find in the face of skilled-worker shortages. Moreover, many older workers are in excellent health and able to continue working for years. Forcing such people to retire is considered a waste of human resources and a violation of human rights.

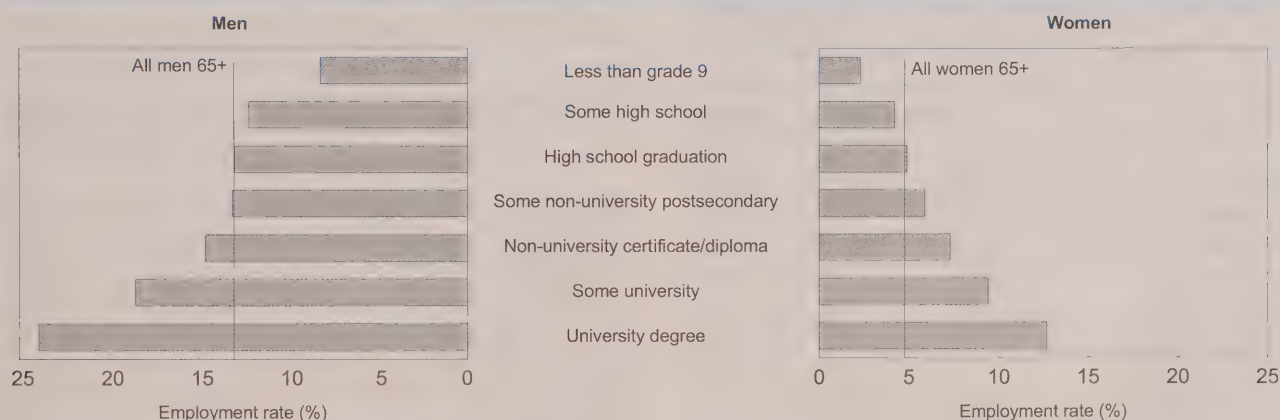
Some employers oppose mandatory retirement because they wish to reduce expenditures on training and pension benefits. Older employees do not need the training required by new employees and do not begin receiving pension benefits until they retire.

Others worry that the burden of future financial obligations related to the Canada and Quebec Pension Plans, Old Age Security, and the Guaranteed Income Supplement will be too great. And then, there are those who have to keep working beyond age 65 to make ends meet. Many are women at risk of financial hardship if forced to retire too soon.

Retirement legislation is mainly a provincial or territorial concern, although the federal government is responsible for its own civil service, the military, and federally chartered institutions such as banks. Mandatory retirement was abolished in the federal civil service in 1986. A mandatory retirement age is also currently prohibited in all three territories as well as in Quebec, Alberta, Manitoba and Prince Edward Island. Exceptions are allowed in the human rights codes of these jurisdictions (and in all other provinces and in federal legislation)—for example, in firefighting, the military, and airline pilot occupations.

The remaining six provinces allow an employer to mandate retirement at age 65 through collective agreements or company policies. For example, Ontario has no law that forces workers to retire at age 65 *per se*, but its Human Rights Code protects only 18 to 64 year-old workers from age discrimination—at age 65, protection ceases. Legislation to eliminate mandatory retirement died on the order paper when the 2003 provincial election was called.

Chart B: The odds of being employed rise with education. However, women with the same schooling as men are much less likely to be working.



Source: Census of Population, 2001

be greater. Finally, people in professions requiring many years of specialized education or training (such as medicine and law) generally begin their careers in their late 20s or early 30s, often having accumulated considerable debt during their school years. Some may choose to work far beyond age 65 to accumulate the savings required to maintain their lifestyle in retirement. In fact, these occupations exhibit a different career age structure than jobs typically held by people who possess a high school or college diploma only (Kaufman and Spilerman 1982).⁴

The most notable employment rate increases between 1996 and 2001 were among seniors with a trades certificate or diploma (up 1.2 percentage points to 11.6%), and among those with some university education (up 1.0 point to 13.5%). The rate fell slightly in only two categories—university degree (to 19.9%), and other certificate or diploma (to 10.5%).⁵

The rising educational attainment and employment rates of seniors reflect the more extensive schooling of younger cohorts (those aged 65 to 69 in 2001 were in the better-educated 60-to-64 age group in 1996).⁶ This early trend can be expected to gain momentum as the well-educated baby boomers enter their senior years (the oldest reached age 55 in 2001).

Many working seniors are self-employed

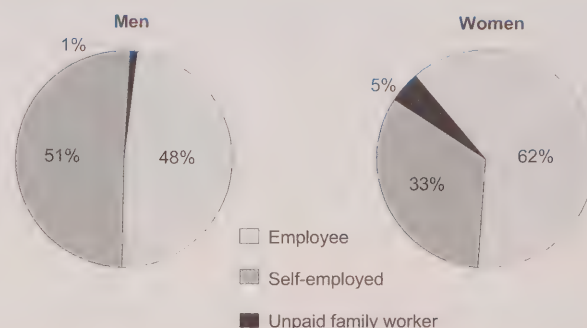
Self-employment is far more common among seniors than among workers aged 15 to 64, reflecting the importance of self-employment as both a lifestyle and source of income among older Canadians (Table 3). Indeed, workers 65 and over were almost four times

more likely than those 15 to 64 to be their own boss—45% compared with 12%. Most of these self-employed seniors (57%) were working owners of an unincorporated business without paid help.

Older workers were also more likely than their younger counterparts to report working without pay in a farm or business owned or operated by a relative living in the same household (unpaid family workers)—2.2% versus 0.4%.

The class of worker distribution of seniors differed substantially by sex. Men were more likely to be self-employed while women were more likely to be employees or unpaid family workers (Chart C).

Chart C: Just over half of senior men were self-employed; the majority of senior women were employees.



Source: Census of Population, 2001

Table 3: Employment by class of worker

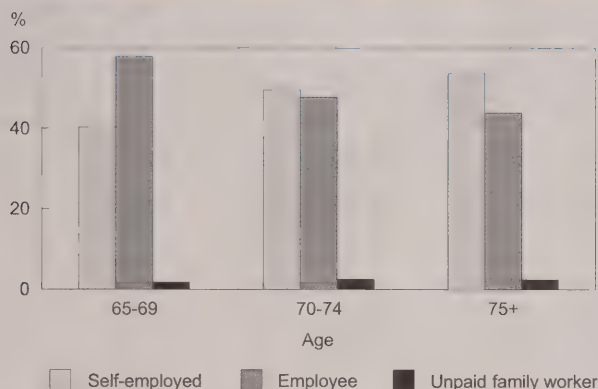
	65 and over		15 to 64
	'000	%	%
Total employed	305	100.0	100.0
Employees	161	52.8	87.9
Self-employed	137	45.0	11.7
Incorporated	36	11.9	3.9
With paid help	20	6.4	2.4
Without paid help	17	5.4	1.5
Unincorporated	101	33.1	7.8
With paid help	23	7.5	2.3
Without paid help	78	25.6	5.5
Unpaid family workers	7	2.2	0.4

Source: Census of Population, 2001

Moreover, the proportion of working seniors who were self-employed rose with age—from 40% of 65 to 69 year-olds to 54% of those aged 75 and over (Chart D). The unincorporated self-employed accounted for all of this increase.

Independence and the flexibility of scheduling one's own hours of work may explain the popularity of self-employment and, to a lesser extent, unpaid family work. These employment situations also allow some to work around a disability, while for others the attraction is freedom from early retirement rules or employer expectations. In some cases, individuals who have spent all or most of their working years in self-employment may simply continue working beyond 'normal' retirement age, at the same or a reduced pace.⁷

Chart D: The oldest workers are the most likely to be self-employed.



Source: Census of Population, 2001

In other cases, older workers may retire from employment but continue working in a similar occupation on a self-employed basis (for example, as a consultant). Alternatively, some may switch gears entirely to take up a completely different but more emotionally rewarding pursuit (such as turning a life-long hobby into a money-making activity).

Although it is too early to ascertain whether a trend is emerging, the proportion of working seniors who are employees seems to be rising, as does the proportion who are incorporated self-employed. Between 1996 and 2001, the former increased from 51.4% to 52.8%, while the latter edged up from 11.4% to 11.9%. In contrast, unincorporated self-employment dropped from 35.0% to 33.1%. The percentage of unpaid family workers stayed the same.

Most occupations are open to seniors, with some exceptions

Although seniors are present in most occupations, some lines of work are essentially closed to them. Jobs that rely on physical capabilities that deteriorate with age—strength, eyesight, reflexes and manual dexterity—may be too demanding for some seniors. Such occupations include commercial divers, air traffic controllers, firefighters, and ambulance attendants.

Some occupations have specific requirements that can be met only through postsecondary education or specialized training. Many of these jobs also demand a familiarity with recently developed technologies. Since

seniors as a group are generally less educated than younger Canadians, they are less likely to qualify for such jobs. For example, in 2001, none of the 1,700 employed cardiology technicians were 65 or older, and seniors accounted for only very small proportions of medical laboratory technicians, instructors and teachers of persons with disabilities, and computer and information systems professionals.

In some cases—such as government, medical and educational services—the dearth of older workers is associated with pension plans that permit retirement at a relatively young age under certain conditions.⁸ Other occupations, such as protective services, have mandatory retirement provisions for safety or other reasons.

Seniors now work in a wider variety of occupations

As the number and proportion of employed seniors continue to rise, the variety of jobs they are performing keeps expanding. In 1996, half of all workers aged 65 and over were concentrated in 20 occupations. By 2001, the same proportion was spread across 25, reflecting increased job diversification in a labour market whose participants meet wide-ranging requirements with respect to education, skills and experience (Table 4).⁹

Farmers and farm managers accounted for 15% of older workers, with 46,405 seniors employed in 2001. Although the large majority (8 in 10) were men, farming and farm management was also the number one occupation of senior women. In addition, a relatively high proportion of seniors (3%) were also employed as general farm workers (ranking fourth).

Many seniors were employed in sales. In fact, the second and third most common occupations for seniors in 2001 were in retail trade as salespersons and salesclerks, and managers. Other sales occupations included sales representatives in non-technical wholesaling;¹⁰ real estate agents and salespersons; and sales, marketing and advertising managers. These five occupations accounted for 10% of working seniors.¹¹ Men were dominant in all these occupations.

The third most common job group for seniors was janitors, caretakers and building superintendents; almost 8 in 10 were men. Related occupations that were also common included light duty cleaning, and property administration. About two in three light duty cleaners were women, while two in three property administrators were men.

Table 4: Top 25 occupations for employed seniors

	Both sexes		Men		Women	
	2001	Change from 1996	2001	Change from 1996	2001	Change from 1996
		%		%		%
Total employed	305,115	19.6	207,260	18.6	97,860	21.6
Top 25 occupations	154,045	15.2	105,050	12.6	49,010	21.3
Farmers and farm managers	46,405	2.7	36,540	-1.7	9,870	22.9
Retail salespersons and sales clerks	10,575	15.5	5,420	20.0	5,155	11.1
Retail trade managers	9,585	49.3	6,965	49.8	2,620	47.6
General farm workers	8,540	18.5	5,200	32.0	3,340	2.1
Janitors, caretakers and building superintendents	7,310	-1.6	5,715	4.1	1,590	-18.0
Secretaries (except legal and medical)	6,200	44.0	250	35.1	5,955	44.5
Bookkeepers	5,220	14.2	895	1.1	4,330	17.7
Security guards and related	4,655	-4.6	4,145	-4.1	510	-8.9
Financial auditors and accountants	4,610	63.5	3,415	53.8	1,195	99.2
Truck drivers	4,310	83.8	4,255	82.2	60	500.0
Sales representatives—wholesale trade (non-technical)	4,230	-5.9	3,695	-8.0	535	11.5
Light duty cleaners	3,940	53.6	1,350	126.9	2,590	31.5
Real estate agents and salespersons	3,800	11.4	2,670	12.4	1,130	9.2
Property administrators	3,625	25.9	2,390	30.2	1,230	18.3
General office clerks*	3,440	-4.6	600	-27.3	2,840	2.2
Babysitters, nannies and parents' helpers	3,420	6.0	425	-5.6	2,995	7.9
Senior managers—goods production, utilities, transportation and construction	2,950	17.1	2,705	15.8	245	36.1
General practitioners and family physicians	2,945	4.4	2,635	2.9	310	19.2
Ministers of religion	2,855	-5.1	2,595	-8.1	260	40.5
Senior managers—financial, communications and other business services	2,850	78.1	2,435	71.5	415	130.6
Senior managers—trade, broadcasting and other services	2,735	37.1	2,400	37.5	335	34.0
Bus drivers, and subway and other transit operators	2,625	39.6	2,280	36.1	345	68.3
Restaurant and food service managers	2,460	55.2	1,765	45.9	690	84.0
Lawyers and Quebec notaries	2,385	34.0	2,240	32.9	150	57.9
Sales, marketing and advertising managers	2,375	6.3	2,065	1.5	315	57.5
All other occupations	151,070	24.3	102,210	25.5	48,850	21.9

Source: Census of Population

* Includes typists and word processing operators, who were classified separately in the 1991 Standard Occupational Classification.

Note: Data may not add to totals because of random rounding to 5.

Seniors working in office or desk jobs, particularly as secretaries (other than legal or medical), bookkeepers, and general office clerks accounted for 5% of employed seniors. Almost 9 in 10 were women.

Seniors in professional occupations were most likely to be financial auditors and accountants, general practitioners and family physicians, religious ministers, or lawyers and Quebec notaries. Most of these jobs require a high or specialized education and tend to be occupied by men.

Older workers were also in senior management, particularly in goods production, utilities, transportation and construction; financial, communications and other business services; and trade, broadcasting and other services. About 9 in 10 were men.

Self-employment, which is common among seniors, lends itself to some occupations more than others—for example, farming, managing a retail business, and service jobs (Marshall 1999). Many professionals such as doctors, lawyers, and architects are also self-employed. In 2001, self-employment was particularly

evident among seniors working as farmers and farm managers, lawyers and Quebec notaries, family physicians, restaurant and food service managers, retail trade managers, general farm workers, and financial auditors and accountants.

However, some jobs favoured by seniors do not have a high self-employment content. For example, 98% of seniors working as security guards were employees. High proportions of employees were also recorded among bus drivers and subway operators, ministers of religion, retail salespersons and sales clerks, and general office clerks.

The split between wage earners and the self-employed was roughly even in the three senior management fields, as well as among sales, marketing and advertising managers.

Major gains occurred in several occupations between 1996 and 2001. Retail trade managers and secretaries (excluding legal and medical) aged 65 and over became more common (up 49% and 44% respectively). Financial auditors and accountants rose considerably (63%), moving their ranking from 16th to 9th place.¹² Seniors also became much more visible as truck drivers (up 84%, rising from 20th to 10th position), light duty cleaners (up 54%), and restaurant and food service managers (up 55%). And notable gains were made in senior management circles—up 78% in financial, communications carriers and other business services.

In contrast, reductions were noted in some of the more traditional senior occupations. For example, janitors, caretakers and building superintendents aged 65 and over fell 2%, falling from 3rd to 5th in rank. Security guards fell by 5%, from 6th to 8th place. A severe drop occurred among accounting and related clerks—down 53%, from 8th place to 30th.¹³ Other contractions took place among sales representatives in (non-technical) wholesale trade (-6%), general office clerks (-5%), and ministers of religion (-5%).

The division of labour among today's seniors remains traditional. Some occupations, such as judges and religious ministers, tend to be filled mainly by men; others, such as secretaries and babysitters, are taken mainly by women. These patterns likely reflect the social culture of these workers when they were school age and, later, as they entered the job market—years before affirmative action programs and anti-discrimination legislation.

Nevertheless, from 1996 to 2001, the proportion of older workers who were women rose across a wide range of occupations, reflecting the higher participation rates of younger cohorts. Overall, women's share of the 65 and over workforce increased from 31.5% in 1996 to 32.1% in 2001. This share is expected to continue rising in future years as younger working women enter their senior years. In 2001, almost half (47.2%) of employed 15 to 64 year-olds were women.

Seniors are highly visible in some jobs

In over 30 occupations, 5% or more of the ranks were 65 or older in 2001 (Table 5). The total number of workers of all ages in these disparate areas ranged from a mere 945 boat operators to a quarter of a million farmers and farm managers.

Older workers were most prominent among judges—almost one in four (23%) were at least 65. Since judgeships are usually conferred after many years of legal experience, incumbents tend to be older, on average, than persons in other careers.

Farming and farm management also contained a very high percentage of seniors (one in five). Other agricultural occupations associated with older workers include nursery and greenhouse operators and managers, and general farm workers.

Seniors were also prominent among trappers and hunters (16%) and among ministers of religion, property administrators and legislators (1 in 10 workers each). Related fields with a lot of older workers include other religious occupations, real estate agents and salespersons, and accommodation service managers.

Many seniors are attracted to artistic pursuits. Some have more time in their later years, while others have decided to expand a lifelong hobby into a second career.¹⁴ Unlike most other jobs held by older workers, which tend to be filled predominantly by one sex, artistic occupations appear more equitable: 56% of senior painters, sculptors and other visual artists were women, 43% of authors and writers, and 56% of artisans and craftspersons. High rates of self-employment in these occupations may contribute to this more equal participation.

Some trade occupations are characterized by a high presence of seniors. These include shoe repairers and shoemakers, jewellers and watch repairers, and upholsterers.

Table 5: Occupations with a high concentration of seniors

	Employed seniors 65 and over						Employment	
	Both sexes	Change from 1996	Men	Change from 1996	Women	Change from 1996	All ages	Seniors' share
		%		%		%		%
Judges	590	22.9	575	23.7	15	50.0	2,585	22.8
Farmers and farm managers	46,405	2.7	36,540	-1.7	9,870	22.9	227,875	20.4
Trappers and hunters	160	-43.9	130	-42.2	30	-50.0	1,020	15.7
Ministers of religion	2,855	-5.1	2,595	-8.1	260	40.5	26,595	10.7
Property administrators	3,625	25.9	2,390	30.2	1,230	18.3	33,880	10.7
Legislators	745	-2.0	605	-4.0	140	7.7	7,605	9.8
Painters, sculptors and other visual artists	1,320	3.9	585	-14.0	740	25.4	15,190	8.7
Nursery and greenhouse operators and managers	525	61.5	380	46.2	145	107.1	6,185	8.5
Other religious occupations	620	-29.1	290	-37.6	330	-18.5	7,440	8.3
Shoe repairers and shoemakers	195	11.4	185	12.1	10	0.0	2,340	8.3
Specialist physicians	1,970	21.2	1,760	18.5	210	44.8	23,855	8.3
General farm workers	8,540	18.5	5,200	32.0	3,340	2.1	104,855	8.1
Real estate agents and salespersons	3,800	11.4	2,670	12.4	1,130	9.2	48,890	7.8
Accommodation service managers	2,200	50.7	1,295	44.7	905	58.8	28,740	7.7
Authors and writers	1,560	19.5	880	8.0	675	39.2	20,550	7.6
General practitioners and family physicians	2,945	4.4	2,635	2.9	310	19.2	41,175	7.2
Conductors, composers and arrangers	160	45.5	80	0.0	75	150.0	2,290	7.0
Musicians and singers	1,950	38.3	660	41.9	1,295	37.8	29,095	6.7
Denturists	140	33.3	140	47.4	10	0.0	2,155	6.5
Security guards and related	4,655	-4.6	4,145	-4.1	510	-8.9	73,540	6.3
Jewellers, watch repairers and related	310	-7.5	300	-3.2	10	-50.0	5,115	6.1
Senior managers—trade, broadcasting and other services	2,735	37.1	2,400	37.5	335	34.0	46,190	5.9
Boat operators	55	266.7	55	266.7	0	0.0	945	5.8
Other elemental service occupations	1,290	29.0	1,055	22.7	230	64.3	22,450	5.7
Artisans and craftspersons	1,045	27.4	465	14.8	580	39.8	18,245	5.7
Senior managers—financial, communications and other business services	2,850	78.1	2,435	71.5	415	130.6	52,085	5.5
Senior managers—goods production, utilities, transportation and construction	2,950	17.1	2,705	15.8	245	36.1	53,970	5.5
Insurance, real estate and financial brokerage managers	1,880	40.8	1,435	24.2	445	154.3	34,460	5.5
Upholsterers	410	86.4	325	66.7	80	166.7	7,645	5.4
Funeral directors and embalmers	230	2.2	230	12.2	0	-100.0	4,355	5.3
Sheriffs and bailiffs	125	31.6	95	18.8	30	200.0	2,440	5.1
Bookkeepers	5,220	14.2	895	1.1	4,330	17.7	103,075	5.1
Dentists	905	40.3	865	38.4	40	60.0	17,930	5.0

Source: Census of Population, 2001

Note: Data may not add to totals because of random rounding to 5.

Data source and definitions

The **Census of Population**, conducted every five years, gathers demographic, social, economic and cultural information on the Canadian population. Most households (80%) are asked to provide basic information only, while the remaining 20% provide more detailed information, including their labour market activities during the week prior to enumeration and in the previous year. The 20% sample information is later weighted to represent the entire population. Most of this article is based on the 2001 Census. The 1996 Census is also used to delineate short-term trends.

In this article, **seniors** are persons aged 65 and over at the time of the 2001 Census (May 15, 2001) or the 1996 Census (May 14, 1996).

The **employed** are persons aged 15 and over who were employees, self-employed, or unpaid family workers during the week preceding the census. Employees earned a wage, salary, tips, commissions, or were paid in kind. The self-employed worked for profit in their own business, farm or professional practice, while unpaid family workers worked without pay in a family farm or business. Also included are persons who were temporarily absent from their job or business, with or without pay, for the entire week because of vacation, illness, a labour dispute, maternity leave, family responsibilities, or some other reason.

Institutional residents living in collective dwellings, such as nursing homes and penal institutions, are excluded from the workforce; and unpaid household activities, unpaid child and elder care, and volunteer work are excluded from the definition of work.

The **unemployed** are persons aged 15 years and over, excluding institutional residents, who had no job but were available for work during the week preceding the census,

and who either had actively looked for work in the preceding four weeks, were on temporary layoff and expected to return to their job, or had a definite arrangement to start a new job within four weeks.

Persons **in the labour force** were either employed or unemployed during the week preceding the census.

The **employment rate** refers to persons employed the week before the census expressed as a percentage of the population. The employment rate for a particular group (for example, women 65 or older) is the number of employed persons in that group as a percentage of the group's total population.

The **unemployment rate** is the number of persons unemployed the week before the census expressed as a percentage of the labour force that same week.

The **participation rate** is the labour force expressed as a percentage of the population.

The **class of worker** indicates whether a person is an employee, self-employed (either incorporated or unincorporated, with or without paid help), or an unpaid family worker.

Full-time workers worked 30 or more hours a week during most of the weeks they were employed in 2000 (or 1995 in the case of the 1996 Census). **Part-time** workers worked mainly less than 30 hours a week. Persons in full-time employment for part of 2000 and in part-time employment for another part were asked to report information for the job at which they worked the most weeks. In the case of people who had more than one job during the same week, the hours spent at all jobs were combined.

Several medical professions also accommodate a high proportion of older workers, including specialist physicians, general practitioners and family physicians, denturists, and dentists.

Most working seniors have full-time jobs

Virtually all seniors (95%) who had jobs in 2001 had also worked the previous year.¹⁵ The majority (57%) were employed mainly full time,¹⁶ but the proportion was significantly lower than that of younger workers (81%) (Table 6). Six in 10 men aged 65 and over (62%) worked mainly full time compared with 45% of women.

Since the incidence of part-time work was higher for those 65 and over than for younger workers, at least some workers may be reducing their weekly hours as a transition into retirement. Perhaps they continue to work to supplement pension income or to occupy some hours of the day. This slowing down can take

many forms. For example, one individual may work fewer hours for the same business, another may retire from a long-time employer to work part time in a similar occupation elsewhere (such as a long-distance trucker switching to local bus driving), and yet another may expand a hobby into a livelihood.

Seniors in the territories and Prairie provinces most likely to work

The distribution of working seniors across the provinces and territories was generally similar to their population distribution; for example, 14% of both the senior population and workforce resided in British Columbia (Table 7). The two exceptions to this parallel pattern were Quebec and Alberta. Quebec accounted for 24% of Canadians 65 and over, but only 16% of workers that age; conversely, Alberta accounted for only 8% of the senior population but 13% of its workforce.

Table 6: Seniors working full time or part time

	Employed in 2001*	Mainly full- time in 2000	Mainly part- time in 2000
	'000		
65 and over	291	165	126
Men	198	123	75
Women	93	42	51
65 to 69	167	101	67
Men	113	75	38
Women	54	25	29
70 to 74	74	39	35
Men	51	29	22
Women	23	10	13
75 to 79	32	16	16
Men	23	12	10
Women	10	4	6
80 and over	17	9	8
Men	11	6	5
Women	6	3	3
15 to 64	14,016	11,315	2,701
Men	7,435	6,570	865
Women	6,581	4,745	1,836

Source: Census of Population

*Persons employed the week before the census who **also** worked at some time in 2000 (excludes 14,000 persons who did not work at all in 2000).

Chart E: The proportion of seniors with jobs rose in all provinces.

Source: Census of Population

The differing proportions of seniors in the workforce in the various provinces reflect provincial economies. For example, older workers were most common in the Prairies, where farming is important. Seniors accounted for almost 5% of total employment in Saskatchewan, compared with only 1.0% in Newfoundland and Labrador, and 2.1% nationally (Table 8).

Similarly, employment rates of seniors were high in the Prairie provinces, particularly Saskatchewan (17%) and Alberta (14%). In contrast, only 3% of seniors living in Newfoundland and Labrador were working (Chart E).

While the proportion of seniors among workers was relatively low in all three territories (1.2% in the

Table 7: Seniors in the population and with jobs

	2001		1996	
	Population	Employed	Population	Employed
Canada	3,624,850	305,120	3,279,775	255,205
Newfoundland and Labrador	59,060	1,850	55,120	1,335
Prince Edward Island	17,060	1,430	16,070	1,295
Nova Scotia	119,370	6,055	112,150	5,365
New Brunswick	92,525	4,650	87,125	3,760
Quebec	878,065	49,355	787,365	40,675
Ontario	1,383,705	122,950	1,246,660	104,010
Manitoba	145,695	14,770	142,140	12,960
Saskatchewan	136,755	22,645	135,145	21,335
Alberta	284,340	39,265	245,605	30,100
British Columbia	504,365	41,520	449,255	33,860
Yukon	1,645	245	1,300	220
Northwest Territories	1,575	235	1,305	160
Nunavut	690	140	530	125

Source: Census of Population

Northwest Territories and 1.5% in the other two), the employment rate among seniors was the highest in Nunavut, where 1 in 5 seniors had jobs; in the Northwest Territories and Yukon, the ratio was 1 in 7.

The proportion of self-employed seniors was relatively low in Quebec (35%) but almost twice as high in Saskatchewan (68%). It was also high in Manitoba, Alberta (both 52%), and Prince Edward Island (51%). The proportion of unpaid family workers was also higher than the national average in the same provinces—5.7% in Saskatchewan, 4.5% in Prince Edward Island, 2.8% in Manitoba, and 2.7% in Alberta. Much of this employment was likely farm-related.

Between 1996 and 2001, the proportion of seniors in the workforce rose from 1.9% to 2.1%. Older workers were more apparent in every province (Table 8), but especially in British Columbia and in Newfoundland and Labrador. Although the proportion of seniors remained well under the national average in the latter province, their share of employment increased considerably during this short period.

Conclusion

The Canadian population is slowly but inexorably aging. In 1971, only 8% was 65 or older; by 2001, the percentage was up to 13%. In the coming decades, this country's massive baby-boom cohort, now middle-aged, is expected to progressively boost this share. Indeed, demographic projections indicate that about 15% of the population will consist of seniors in 2011, 19% in 2021, and 21% in 2026.¹⁷

Table 8: Seniors' share of employment

	2001	1996
	%	
Canada	2.1	1.9
Newfoundland and Labrador	1.0	0.7
Prince Edward Island	2.2	2.1
Nova Scotia	1.5	1.4
New Brunswick	1.4	1.2
Quebec	1.4	1.3
Ontario	2.2	2.0
Manitoba	2.7	2.5
Saskatchewan	4.7	4.6
Alberta	2.4	2.2
British Columbia	2.2	1.9
Yukon	1.5	1.3
Northwest Territories	1.2	0.8
Nunavut	1.5	1.5

Source: *Census of Population*

This demographic trend is a source of great concern to governments, policy makers, labour market and other researchers, employers, unions and workers. Much apprehension revolves around the future capability of public and private pension and social programs to adequately address the needs of the coming generations of seniors.

However, these fears may be moderated as an increasing number of Canadians approaching the customary retirement age of 65 consciously choose to remain in the labour market. It is also likely that the participation rates of older women will continue to rise toward those of men.

Alternatives to retirement are much more numerous today, given the increased availability of casual, part-time, and on-call employment, as well as expanding opportunities for home-based work. And despite living in an increasingly technological society, the more highly educated

baby boomers can expect to qualify for more occupations than ever before as they approach retirement age.

The reorientation of the Canadian economy from the production of goods (agriculture and manufacturing) to the provision of services (ranging from professional consulting services to restaurant and fast-food services) has also opened more doors. These new or expanding job markets have increased the demand for knowledge workers familiar with evolving technologies (particularly those dependent on computers), as well as people who have honed their social skills through life experience.

These are only some of the trends that may encourage baby boomers entering their senior years to continue working well past 65.

Perspectives

Notes

1 These bridges can take many forms, such as consulting in an area of expertise, performing a job that requires a different skill set (from teaching to selling books, for example), or expanding a hobby into an income-generating activity.

2 The May 1966 Labour Force Survey indicated that only 36% of 25 to 54 year-old women were in the labour force, compared with 97% of men that age. By the 2001 Census, the proportion of women working or looking for work had risen to 79%, while that of men had dropped to 91%.

3 This supports the conjecture that more and more seniors will be working in the next few decades.

4 Recent findings on early retirement trends indicate that highly educated workers are also more likely to retire early than those with less schooling. This apparent contradiction may in part be attributed to

early retirees who were formerly employed in the public sector—public administration, education, communication and utilities, and health care and social services. These fields are associated with employer-sponsored pension plans that enable employees to retire before they become eligible for Canada or Quebec Pension Plan benefits (Kieran 2001). Some retire from a lifelong career at a relatively young age, becoming self-employed to work at a slower pace in a similar occupation; others end up pursuing an entirely different line of work that they feel could be more rewarding at this stage of their life.

5 In Duchesne (2002), ‘other non-university only with trades certificate or diploma’ was included in the more aggregated ‘other certificate or diploma’ category because the general practice in census tabulations is to assign people with a trades certificate or diploma obtained through apprenticeship or journeyman’s training to a simple ‘trades certificate or diploma’ category, and to assign people with a trades certificate or diploma obtained at a vocational school or community college to ‘other non-university only with trades certificate or diploma.’ In this article, ‘other non-university only with trades certificate or diploma’ was assigned to ‘trades certificate or diploma.’ Had the original groupings been used, the employment rate for seniors with a ‘trades certificate or diploma’ would have risen from 10.2% in 1996 to 11.2% in 2001; the rate for ‘other certificate or diploma’ would have increased from 10.7% to 11.1%.

6 The educational attainment of this pre-65 cohort rose appreciably in only five years. Between 1996 and 2001, the proportion of 60 to 64 year-olds with a university degree rose from 8.4% to 11.9%; at the other end of the scale, those with less than a grade 9 education fell from 27.9% to 20.8%.

7 The volume of work performed can be approximated using the full-time/part-time variable.

8 Conditions for a full pension upon retirement may entail a minimum age requirement (such as 55) and a minimum number of years worked (such as 35) for a particular employer. In some cases, the pension credits from one employer are transferable to another.

9 These statistics were compiled for 520 unit groups—the most detailed level in the 2001 National Occupational Classification for Statistics.

10 Sales representatives in wholesale trade (non-technical) are concerned primarily with wholesaling goods and services that do not require a knowledge of science or engineering (for example, wholesalers of alcoholic beverages, financial services, and radio advertising; auctioneers; freight sales agents; grain dealers; importers; publication distributors; wholesale suppliers, tour operators).

11 Seniors were also employed in a multitude of other sales occupations, such as grocery clerks, service station attendants, direct sellers, street vendors, telemarketers, cosmetics sellers, and other home sales.

12 A huge increase (44%) in the number of financial auditors and accountants was observed in all age groups (from 116,390 to 167,080). Respondents under age 25 who identified themselves as auditors or accountants but had no educational qualifications were assigned to the accounting and related clerks category instead, as were persons who prepare tax returns for pay.

13 A major decline among accounting and related clerks was seen in all age groups. Total employment in these occupations dropped from 251,825 workers in 1996 to 169,985 in 2001. This trend may be related to the rising proliferation of accounting software, which has replaced many workers.

14 The high visibility of seniors in artistic occupations may reflect data collection practices. For example, many younger individuals who regard themselves primarily as artists or writers must take a second job to make ends meet. If the usual weekly hours at a non-artistic job exceed those spent on creative endeavours, that job will be recorded as the main job. Also, the dividing line between a professional artist or writer and an amateur can be difficult to draw. Many individuals pursue artistic interests for years as hobbies. A hobby that does not provide income is not considered employment. After retirement, what was once a hobby may become a second career.

15 A small proportion (4.7%) of the 305,120 seniors with jobs the week before the 2001 Census were not employed at all in 2000. The corresponding proportion among 14.4 million 15 to 64 year-olds was lower (2.6%). This type of labour market behaviour could result from job loss, long-term unemployment, a lengthy vacation or illness, temporary retirement (among older workers), as well as school attendance or unpaid maternity leave (among younger workers).

16 This finding is based on whether the weeks worked in 2000 were full-time (30 or more hours) or part-time (under 30 hours). Persons with a full-time job for part of the year and a part-time job for another part of the year reported the information for the job at which they worked the most weeks. Information was not collected on the number of weeks worked per se; for example, a mainly full-time worker could have worked as little as one week or all 52 weeks.

17 These projections are based on medium-growth assumptions. See *Population projections for Canada, provinces and territories, 2000-2026* (Statistics Canada, Catalogue 91-520-XPB) or call (613) 951-2320.

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We welcome your views on articles and other items that have appeared in *Perspectives*. Additional insights on the data are also welcome, but to be considered for publication, communications should be factual and analytical. We encourage readers to inform us about their current research projects, new publications, data sources, and upcoming events relating to labour and income.

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The near-retirement rate

Canada's population is aging and baby boomers are fast approaching their retirement years. If labour force participation by age remains around the present rates, more seniors will likely mean a shrinking workforce. In fact, the overall participation rate could fall as low as 57% by 2025, a considerable drop from its current level of 67%.¹ In addition, the median retirement age has dropped—from 64 in 1987 to 61 in 2002 (see *Defining retirement*).

These changes will fundamentally affect the workforce. A scarcity of workers may lead to rising wages. This could encourage older workers to stay in the labour force longer or deter younger people from pursuing long-term postsecondary education. Also, employers may institute more automation and strive for greater workplace productivity.

Past studies have identified changes in the proportion of older workers in the labour force. While results highlight the demographic effects of an aging population, they provide little information on possible labour supply shortages. The age at which people retire plays an important role in determining the potential effect of an aging population on the workplace.

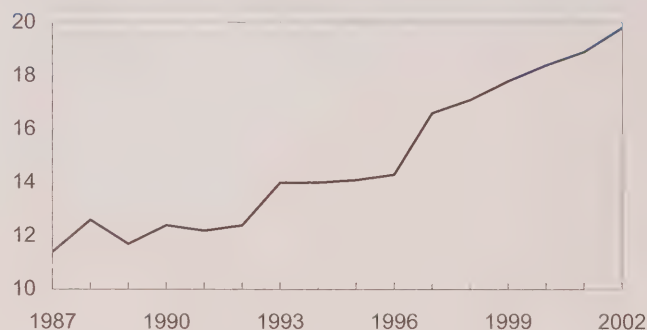
This article identifies trends between 1987 and 2002 in the 'near-retirement rate (NRR)'—the percentage of workers who are within 10 years of the median retirement age. This rate indicates potential employment shortages but does not predict precise numbers of future retirees. It simply identifies the proportion of workers nearing the median retirement age for their industry, occupation or province.

An increasing proportion of workers are close to retirement.

The NRR is affected primarily by two factors: the median retirement age and the age distribution of a given group. All else held equal, a decrease in the median retirement age will result in an increase in the NRR, since more workers will be within 10 years of this age or older. Likewise, the aging of the population will cause the NRR to rise, given an increased number of older workers relative to the entire working population.

A look at the NRR over time reveals both a falling median retirement age and an aging population. The national rate steadily increased during the 15-year period between 1987 and 2002—from 11% to 20%. The largest increase occurred from 1996 to 1997, a period during which early retirement peaked (Kieran 2001). The number of people nearing retirement continued to increase through the late 1990s and into 2002.

% within 10 years of median retirement age



Source: Labour Force Survey

Median retirement age and near-retirement rates

			Those within 10 years of retirement at			
Employed	Median retirement age		Median age		Age 64	
			Number	Rate	Number	Rate
	'000	Years	'000	%	'000	%
1987	12,320.7	64.3	1,406.7	11.4	1,406.7	11.4
1988	12,710.3	63.3	1,603.8	12.6	1,439.1	11.3
1989	12,986.4	63.8	1,443.0	11.7	1,443.0	11.1
1990	13,084.0	62.8	1,623.6	12.4	1,451.4	11.1
1991	12,850.7	62.8	1,572.3	12.2	1,401.2	10.9
1992	12,760.0	62.8	1,576.4	12.4	1,399.8	11.0
1993	12,857.5	62.2	1,806.0	14.0	1,406.5	10.9
1994	13,111.7	62.0	1,836.8	14.0	1,442.2	11.0
1995	13,356.9	61.9	1,883.1	14.1	1,451.2	10.9
1996	13,462.6	62.3	1,922.4	14.3	1,476.1	11.0
1997	13,774.4	60.6	2,282.7	16.6	1,548.9	11.2
1998	14,140.4	60.8	2,413.4	17.1	1,620.4	11.5
1999	14,531.2	60.7	2,581.8	17.8	1,701.5	11.7
2000	14,909.7	61.2	2,736.1	18.4	1,797.6	12.1
2001	15,076.8	61.2	2,848.5	18.9	1,887.0	12.5
2002	15,412.0	60.6	3,044.5	19.8	2,077.2	13.5

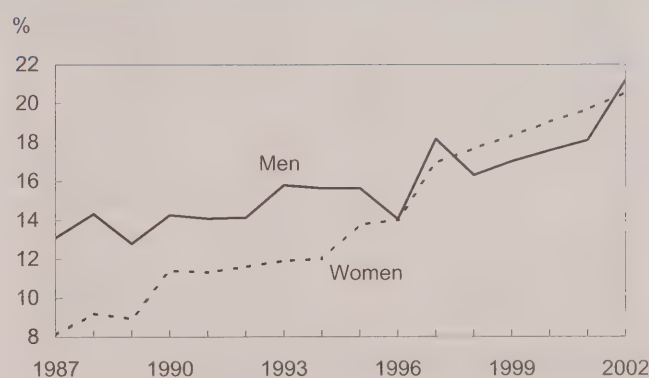
Source: Labour Force Survey

The aging population accounted for a relatively small portion of the increase in the NRR until about 1997 when it began to rise. Not surprisingly, this coincides approximately with the year the oldest baby boomers were first included in the group of workers approaching retirement. Assuming the current median retirement age does not increase dramatically, the NRR will rise as more workers from this generation approach the median retirement age.

Near-retirement rates are increasing for both men and women.

Both men and women had increases in their NRRs, although the rate for women grew at a much faster pace. In fact, over the 15-year period, the NRR for women increased 12 percentage points to 20.6%, while rising 8 points to 21.2% for men.

The likely explanation is that while the median retirement age for women dropped considerably—from 65 to 60—the age for men fell by only two years—to 61 in 2002. The upward trend in the public-sector NRR has had a disproportionate effect on the rate for women. Almost 25% of employed women work in the public sector, compared with only 14% of working men.



Source: Labour Force Survey

The public sector leads the upward trend in the near-retirement rate.

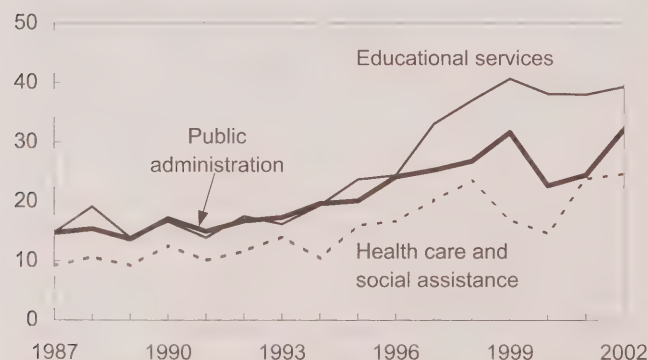
Between 1987 and 2002, most of the increase in the NRR could be attributed to the public sector, where the median retirement age dropped dramatically over much of the 1990s and into 2002. In 1987, when the median retirement age in the public sector was 63, 13% of the public-sector workforce fell into the near-retirement group. By 2002, one in three workers (33%) was within 10 years of the retirement age (58).

	Near-retirement rate		Median retirement age	
	1987	2002	1987	2002
	%		Years	
Employed	11.4	19.8	64.3	60.6
Public	12.7	33.4	62.8	58.1
Private	8.3	15.6	64.6	61.4
Self-employed	19.2	22.6	65.2	64.8

Source: Labour Force Survey

In the three largest public-sector industries—public administration, education, and health care and social assistance—NRRs increased considerably between 1987 and 2002. The largest jump came in education, from 15% to 39%. Over the period, the median retirement age fell to 57, the lowest of any industry. While the median retirement age in education is

Near retirement (%)



Source: Labour Force Survey

	Near-retirement rate		Median retirement age	
	1987	2002	1987	2002
	%		Years	
Industry	11.4	19.8	64.3	60.6
Agriculture	24.7	23.0	64.9	66.0
Forestry, fishing, mining, oil and gas	13.9	25.7	61.7	59.4
Utilities	15.5	27.5	60.3	58.9
Construction	13.4	14.5	63.2	64.3
Manufacturing	13.0	16.4	63.2	61.7
Trade	8.8	14.7	64.8	62.0
Transportation and warehousing	13.5	26.7	62.7	60.3
Finance, insurance, real estate and leasing	10.6	20.9	64.4	61.1
Professional, scientific and technical	5.1	19.8	69.1	61.2
Management, administrative and support	14.7	12.9	62.7	65.3
Educational services	14.8	39.3	62.0	57.3
Health care and social assistance	9.2	24.7	64.8	60.2
Information, culture and recreation	7.8	16.0	64.6	60.4
Accommodation and food services	8.6	11.2	61.6	61.3
Other services	13.8	17.2	65.0	63.8
Public administration	14.7	32.1	62.4	58.2

Source: Labour Force Survey

particularly low, workers are somewhat older. In 2002, the average age in education was 42, almost three years more than the average for all industries.

After education, the next largest increase was in public administration. In 2002, 32% of the public administration workforce was within 10 years of the median retirement age, an increase of 17 percentage points from 1987. As with education, the retirement age dropped sharply in this industry. In 2002 it was 58, four years lower than in 1987.

In health care and social assistance, the other major industry driving the upward trend in the broader public sector, the NRR increased from 9% in 1987 to 25% in 2002.

Near-retirement rates and median retirement age by occupation

Near-retirement rates by occupation reflected those by industry. The highest NRR in 2002 was for the social science, education, government service and religion group (36%), almost triple its 1987 level. This group had the lowest median retirement age in 2002, down almost five years from 1987. The lowest NRR and highest retirement age were found in art, culture and recreation, where the rate declined slightly over the period as the retirement age increased.

	Near-retirement rate		Median retirement age	
	1987	2002	1987	2002
	%		Years	
Occupation	11.4	19.8	64.3	60.6
Management	15.5	29.9	63.0	59.8
Business, finance and administrative	8.7	20.4	64.8	60.8
Natural and applied sciences	11.9	18.9	60.9	59.4
Health	9.7	24.0	64.0	59.8
Social science, education, government service and religion	12.2	36.4	62.0	57.4
Art, culture and recreation	10.0	7.6	64.8	66.9
Sales and service	9.9	15.9	64.7	61.3
Trades, transport and equipment operators	11.8	19.0	63.9	62.3
Unique to primary industry	20.8	17.3	64.6	65.6
Unique to production	8.7	15.3	64.6	61.6

Source: Labour Force Survey

Near-retirement rates and median retirement age by province

In 2002, most provinces had NRRs of about 20%, roughly double the rates in 1987. The exceptions were Alberta and Saskatchewan, with Saskatchewan claiming the lowest rate in the country at 13.8%, down 1.5 percentage points from 1987. Alberta was second lowest at 15.0%—up only 3.6 percentage points from 15 years earlier.

Why is the NRR both low and relatively unchanged in these two provinces? First, their median retirement ages are the highest in the country—63.4 in Alberta and 65.1 in Saskatchewan. Hence, the percentage of their workforces near retirement is less than the national average. But why did the rates not grow as in other parts of the country? One reason is that the median retirement age in these two provinces actually increased between 1987 and 2002. Undoubtedly, this was at least partly because of the rise in the retirement age in agriculture during this time.

Prince Edward Island experienced an increase of 15 percentage points in its NRR between 1987 and 2002, with a notable 25% of workers nearing retirement in 2002. British Columbia's rate increased 6 percentage points between 2001 and 2002 (17% to 24%) while their median age of retirement decreased from 62 to

	Near-retirement rate		Median retirement age	
	1987	2002	1987	2002
	%		Years	
Canada	11.4	19.8	64.3	60.6
Newfoundland and Labrador	9.6	21.6	63.3	59.6
Prince Edward Island	10.0	24.9	65.7	59.4
Nova Scotia	10.2	21.6	63.7	59.8
New Brunswick	9.2	20.9	64.6	59.6
Quebec	10.4	21.6	64.0	59.8
Ontario	10.8	19.6	64.7	60.8
Manitoba	11.5	20.3	64.6	61.2
Saskatchewan	15.3	13.8	64.1	65.1
Alberta	11.4	15.0	63.1	63.4
British Columbia	11.3	23.6	64.3	60.3

Source: Labour Force Survey

60. Quebec's rate hit a peak of 24% in 1997 and 1998 when the provincial median retirement age fell from 62 in 1996 to 58 in 1998, but then dropped to 19% when the retirement age increased to 60 in 1999.

■ Note

1 .Using four different population projections, the overall participation rate will fall given current age-sex participation rates (Sunter 2001).

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Defining retirement

Retirement is not easily defined. For example, is someone considered to be retired only after they have stopped working permanently? What about an individual who is collecting a pension after having left a job of 30 years, but who works part time to keep busy? Since retirement is difficult to define, it is also difficult to measure.

The Labour Force Survey asks individuals who are no longer working, but who have worked in the previous 12 months, why they are no longer employed. Those who answer 'retired' are considered to be retirees. This concept of retirement is used in combination with an age variable to calculate an annual **median retirement age**.

The median retirement age fluctuates from year to year in response to such things as the business cycle, public policy, investment returns, and the rate of inflation.

Because the median retirement age used for analysis in this paper is a derived variable which relies in part on self-reporting, it serves only as an indicator of retirement patterns (Gower 1997).

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What's new?

Recent reports and studies

■ JUST RELEASED

■ *How long do people live in low-income neighbourhoods?*

How long do people live in low-income neighbourhoods (those with at least 40% of residents below the low-income threshold) in Canada's three largest cities: Toronto, Montréal and Vancouver? Using income tax data from 1992 to 1999, this study shows that people who moved into a low-income neighbourhood lived there for an average of 3.8 years. However, the time varied substantially, with one-third living there for two years or less and another one-third for six years or more.

Results varied according to location, family type, and age. Residents of Toronto and Vancouver, families with children, and older individuals generally lived longer in a low-income neighbourhood.

A larger share of Montréal's population lived in a low-income neighbourhood compared with Toronto and Vancouver. However, Montrealers tended to stay for a shorter time—3.2 years compared with 4.3 years in Toronto and Vancouver, despite the better job opportunities in these two cities.

Low-income families with children could expect to live in a low-income neighbourhood for about five years, compared with about four years for low-income families without children, taking into account differences in age, sex, location, and the local unemployment rate.

Older individuals were far less likely to move to a low-income neighbourhood, but once there they tended to remain longer. The average for people aged 55 or older was about six years compared with only three for those aged 25 to 34.

For more information, see the January 21, 2004 issue of *The Daily* on the Statistics Canada's Web site (www.statcan.ca).

■ *The culture sector labour force*

Job growth in the culture sector outpaced that of the overall labour market from 1991 to 2002. However, the boom may have ended in the new millennium.

The 1980s saw a rapid expansion of the culture workforce to meet increased demand. This growth paused with the 1990-91 recession. With the end of the recession, the labour market rebounded, and culture workers rode the high employment wave throughout the remainder of the decade.

While the total labour force increased about 20% from 1991 to 2002, employment growth in the culture sector was 31%. However, most of the gains occurred before 1999; between 2000 and 2002, the sector's workforce hardly increased.

The culture workforce peaked at almost 578,000 in 2001 and then declined slightly. In total, just over 577,000 people worked in the culture sector in 2002, representing 3.7% of Canada's total labour force.

About 30% of these individuals worked in culture occupations, such as creative and artistic production, and heritage collection and preservation. Almost four of every five jobs in culture occupations were full-time.

The number of self-employed workers in the culture sector increased 57% from 1991 to 2002, to reach almost 148,000. Indeed, one in four workers in the culture sector was self-employed in 2002, notably higher than the 15% for the entire workforce.

With only modest growth in spending on culture activities throughout the 1990s, much of the increase in culture employment can be attributed to increases in government grants and contributions and to the healthy performance of the sector in the export market.

For more information, see the January 13, 2004 issue of *The Daily* on the Statistics Canada's Web site (www.statcan.ca).

■ *Trends in family income*

Most family types recorded increases in average after-tax family income in the 20-year period from 1981 to 2001, even after taking inflation into account.

After reaching a high of 49.9% in 1985, the low-income rate for lone-parent families dropped below 30% for the first time in 2001, to 28.6%. Elderly families and elderly persons living alone had about \$3,000 more, families with children almost \$10,000 more, and lone-parent families almost \$5,000 more.

In 2001, after-tax family income rose for the fifth straight year, mainly the result of higher government transfers and lower personal income taxes. Income for families of two or more reached an estimated \$58,000, up 3.4% after adjusting for inflation, even though average market income changed little. Government transfers grew for all family types, except female lone-parent families. Government transfers to female lone-parent families edged down over the previous several years, as their average market income rose.

For more information, see the December 22, 2003 issue of *The Daily* on the Statistics Canada's Web site (www.statcan.ca).

■ *Productivity by industry*

Labour productivity in farming, logging, wholesale and retail trade, and professional services outpaced other major sectors of the economy from 1997 to 2002.

The period was characterized by productivity revival, mainly during the first four years. Between 1997 and 2000, Canada experienced strong economic growth partly because of the information and communication technology revolution. A slowdown followed in 2001 and a slight recovery in 2002. During the last part of the period, the business sector was affected by the collapse of the speculative high-tech bubble.

Labour productivity in crop and animal production grew at an annual average rate of 5.8% from 1997 to 2002, the fastest of any sector and more than twice the average increase of 2.3%. In distant second place was wholesale trade with 4.5%, and forestry and logging third at 4.1%. Productivity in the key manufacturing sector grew at an average rate of 2.8%, just above average.

Reasons for productivity growth varied from sector to sector. For example, the substantial gain in crop and animal production occurred because output rose as employment fell, largely because the sector became more capital intensive.

In the case of wholesale trade, gross domestic product (GDP) in the sector rose at a torrid average of 6.4% each year, while employment increased only moderately.

In manufacturing, output increased 4.4% each year, mostly because factories became more capital intensive while employment remained basically stable.

Between 1997 and 2002, nearly all manufacturing industries posted productivity gains. On average, productivity advanced 5.0% a year or more in four industries: primary metals, computer and electronic products, wood products, and chemical.

In the mining sector, mining and oil and gas extraction registered productivity gains of about 4.0%. In the services sector, waste management posted the highest productivity gains (4.9%), followed by wholesale trade (4.5%), professional services (3.9%) and repair and maintenance (3.4%).

Labour productivity in the business sector as a whole increased at an annual average rate of 2.3% during this six-year period. Services accounted for nearly two-thirds of the growth, manufacturing 29%, and agriculture and forestry 7%.

For more information, see the December 18, 2003 issue of *The Daily* on the Statistics Canada's Web site (www.statcan.ca).

■ *Survey of Household Spending*

The proportion of the average household budget allocated to food and shelter in 2002 remained largely unchanged from 2001. However, spending on transportation and communications increased, while the portion claimed by personal taxes fell for the second consecutive year.

Personal taxes accounted for an estimated 20% of the average household budget, down from 21% in 2001. Transportation claimed 14%, up from 13%, while food represented 11% and shelter 19%, about the same as in 2001.

On average, households spent \$60,090 in 2002, a 2.2% increase from 2001 after adjusting for inflation. This included an estimated \$6,680 on food, \$11,200 on shelter, \$8,430 on transportation, and \$12,030 on personal taxes.

Two provinces reported household spending above the average: Alberta at \$67,730 and Ontario at \$67,540. Newfoundland and Labrador continued to have the lowest provincial average (\$47,970).

Household spending on transportation rose to \$8,430, up 11% from 2001, driven by vehicle purchases.

For the first time, more than half of households (52%) reported having a cell phone, spending \$260 on cellular services in 2002, up 25% from 2001.

Just over one-half (54%) of households used the Internet from home, up from 50% in 2001 and 42% in 2000. Over half of households with Internet access had a high-speed connection (cable or high-speed telephone), up from 41% in 2001.

Urban-rural differences were significant. More than one-third of urban households reported a high-speed connection, compared with only 5% of rural households. Average spending on Internet services rose 25% to \$160.

Satellite television receivers were found in 21% of households, up from 18% the previous year. Cable television use held steady at 67%. Satellite TV was more widespread in rural areas—over half of households compared with only 16% of urban households. Average spending for satellite service jumped 31% to about \$100 in 2002, while average cablevision service remained steady at \$330.

In 2002, over 64% of households reported owning a computer, continuing the upward trend from 60% in 2001 and 55% in 2000. The number of households reporting spending on new computer hardware rose from 12% in 1997 to 18% in both 2001 and 2002. However, spending was down 10% to \$230 in 2002, 17% below the peak of \$280 in 2000—mainly due to steady price decreases.

Households spent \$1,590 on health care, up 12%. This was due to an 11% increase for prescription drugs, and 13% for public and private health insurance premiums.

Alberta households reported the highest average spending on health care at \$1,990, followed by British Columbia at \$1,850. Households in Newfoundland and Labrador reported the lowest (\$1,300), while Ontario was second lowest (\$1,400).

Personal insurance and pension contributions, excluding RRSPs, grew 9% to \$3,420, mostly because of increases in contributions to the Canada and Quebec Pension Plans. Average RRSP contributions decreased 4% to \$1,620.

Spending on tobacco products rose 19% to an average of \$730 in 2002, largely reflecting a 32% rise in the price of tobacco products. The percentage of households reporting spending on tobacco decreased from 47% in 1992 to 37% in 2002.

Net spending on games of chance increased nearly 18% from 2001 to an average of \$310 per household.

The one-fifth of Canadian households with the lowest incomes spent over 51% of their budget on food, shelter and clothing in 2002. Personal income taxes claimed 4% of their budget. In contrast, the group of households with the highest incomes allocated about 28% of their budgets to food, shelter and clothing, while 28% went to personal income taxes. The proportions for both groups were similar in 2001.

For more information, see the December 17, 2003 issue of *The Daily* on the Statistics Canada's Web site (www.statcan.ca).

■ *Employer pension plans (trusteed pension funds)*

In the second quarter of 2003, trusteed pension funds reported their first positive cash flow in more than a year, with estimated revenues of \$14.9 billion and expenditures of \$11.3 billion.

Assets increased from \$518.2 billion to \$553.6 billion in the second quarter, a 6.8% gain. About 38% was invested in stocks and subject to stock market price variations.

Typically, fund asset values increase or decrease with stock prices, and this was the case in the second quarter. The Standard & Poor's/Toronto Stock Exchange Composite Index (S&P/TSX) gained 10% over that period.

Fund assets also benefited from the increased value of their bond holdings, but to a lesser extent than the increase in the value of their stocks. Bonds represented 37% of holdings. Since the fourth quarter of 1999, trustee pension fund managers have been slowly shifting their holdings from an emphasis on stocks to a more even split between stocks and bonds.

About 5.5 million Canadian workers are members of employer pension plans, and of these, about 4 million are members of trustee plans. The remaining 1.5 million workers' retirement benefits are covered by different funding arrangements of the federal and provincial governments (primarily for their public servants), and by insurance company contracts or Government of Canada annuities, usually purchased by private-sector employers for employees approaching retirement.

For more information, see the December 15, 2003 issue of *The Daily* on the Statistics Canada's Web site (www.statcan.ca).

■ *Employment in agriculture and agri-food*

The proportion of workers employed in the agriculture and agri-food sector held steady between 1981 and 1996 despite a big decline in the number of census farms. In 1996, just under 15% of the workforce, or about one in seven, worked in agriculture or agri-food, roughly the same as 15 years earlier.

Canada had 276,548 census farms in 1996, down 13% from 1981. However, during this period, employment in agriculture and agri-food increased 24% to just over 2.1 million. In comparison, the total workforce increased by nearly 21%.

Employment growth in the sector was entirely in agri-food, the part beyond the farm gate. Employment in agriculture remained virtually unchanged, while it rose 34% in agri-food, mostly in food and beverage services.

In 1981, more people worked on farms than in restaurants, bars and taverns. By 1996, the food and beverage service sector was 63% larger than farms.

Almost 1.7 million people worked in the agri-food group in 1996, about three-quarters of the sector's total.

Agriculture and agri-food employment is more predominant in rural areas. However, this concentration is declining, due to the declining intensity of employment on farms in predominantly rural regions.

Within the agri-food group, employment increased the most in the food and beverage service sector. The sector created 336,000 new jobs, a 74% gain.

In contrast, about 15,000 fewer people were working in food processing in 1996, but more food was being processed. Mechanization was a major factor.

Rural regions adjacent to urban areas gained a greater share of food processing employment. Predominantly rural regions also gained a higher proportion of jobs in restaurants, bars and taverns.

For more information, see the December 11, 2003 issue of *The Daily* on the Statistics Canada's Web site (www.statcan.ca).

■ *Economic performance in Canada and Australia*

Despite a labour productivity gap in favour of Australia, Canada's standard of living grew at the same pace as Australia's during the late 1990s.

Canada and Australia have many similarities, allowing a ready comparison. Both are net importers of production technology. Machinery and transportation equipment represent about one-half of total imports for both. The bulk of high-tech equipment of both countries is imported from the United States.

Both have abundant natural resources, and the structures of their economies are dominated by the primary sector: 55% of Australia's exports are in the form of raw materials, compared with 46% for Canada.

From 1995 to 2000, gross domestic product (GDP) per capita in Canada increased at an annual average rate of 3.0%, just marginally above the average of 2.9% in Australia. This occurred despite a widening gap between the two countries in terms of labour productivity. In Australia, productivity rose at an average annual pace of 2.5% during the period, compared with only 1.5% in Canada.

How could Canada increase its standard of living as fast as Australia yet be less productive? The answer relates primarily to differences in their labour markets.

Canada's growth in living standard comes largely from a significant increase in labour utilization—a combination of higher average hours worked and a higher rate of employment relative to the total population. Despite its lag in productivity growth, Canada's growth in living standard kept up with Australia's, since Canada put in relatively more working time per person.

In 2001, GDP per capita in Canada was about \$28,900, slightly higher than \$27,300 in Australia. Australia's population was roughly 20 million, about two-thirds of Canada's nearly 31 million.

Canada's prosperity also compared favourably with Australia's during the 1980s. However, it fell behind afterwards, primarily as a result of the deep recession in Canada in the early 1990s and the major restructuring of the Canadian economy following implementation of the Canada-United States free trade agreement.

From 1983 to 1988, GDP per capita advanced at an average of roughly 3.0% a year in both countries, though as a result of different forces. Canada outperformed Australia in terms of labour utilization, but Australia posted faster productivity gains.

Labour productivity rose 1.3% in Australia, compared with 0.9% in Canada. However, labour utilization in Canada rose at an annual average pace of 2.1%, compared with only 1.7% in Australia. In addition, Canada put people to work much more rapidly during the 1980s. Canada's employment rate increased 1.6% a year from 1983 to 1988, three times the 0.5% in Australia.

The last five years of the 1990s marked the impact of information technology on economic growth. Prosperity growth in both countries vaulted to an average of about 3% a year. As a result of the strong productivity growth in the 1990s, Australia raised its ranking on GDP per capita to seventh in the world in 2001, up from 15th in 1990.

The gap in the growth in labour productivity in favour of Australia was primarily attributable to the less rapid capital-labour intensity growth in Canada.

While capital formation grew less rapidly in Canada, hours at work increased more rapidly. As a result, capital per hour—a key factor behind labour productivity growth—increased more slowly in Canada.

For more information, see the December 9, 2003 issue of *The Daily* on the Statistics Canada's Web site (www.statcan.ca).

■ *Rural economic diversification*

Economic diversification, the degree to which the workforce is spread across a variety of industries, increased in nearly two-thirds of rural communities from 1986 to 1996.

However, only four of every 10 rural communities (41%) experienced a diversifying economy and a growing workforce during this period. Large differences were also evident between provinces and within regions.

Communities within a census division, roughly equal to a county, may be geographically close but may not share the same economic characteristics. This suggests two ideas. First, elements outside the regional context, such as leadership skills and community cohesion, may be behind a community's economy. Secondly, rural communities should be compared with each other and the emphasis on urban-rural contrasts reduced. In other words, greater focus should be on equalizing socio-economic differences between rural communities and assisting those that are doing poorly on a regional scale.

Just over one-half (52%) of communities dominated by agriculture recorded growth in both their workforce and in diversification, as did 41% of those dominated by mining. Only a small proportion of those dominated by logging and forestry showed growth.

For more information, see the December 9, 2003 issue of *The Daily* on Statistics Canada's Web site (www.statcan.ca).

■ *Canada's retirement income programs*

Canadians had accumulated an estimated \$1.15 trillion in the three main retirement programs by the end of 2001, almost double the level of \$593.6 billion in 1990 when measured in inflation-adjusted dollars.

Of the total, 69% was in employer-sponsored registered pension plans (RPPs), 25% in registered retirement savings plans (RRSPs), and about 6% in the Canada and Quebec Pension Plans (C/QPP).

Assets in RPPs peaked at almost \$826.4 billion in 2000, then fell slightly to about \$794.1 billion in 2001, due in part to falling stock prices.

As of January 1, 2002, just under 5.5 million people, or about 40% of all employees, were participating in 13,861 RPPs. This was an increase of 2.9% from 1992 when RPPs covered 5.3 million employees, or about 45% of the total, in 18,028 registered plans.

Canadians had nearly \$292.5 billion invested in RRSPs at the end of 2001, and about \$64.7 billion in the C/QPP.

At the end of 2001, about 2.5 million employed women belonged to an RPP, an increase from about 2.2 million in 1991. At the same time, the number of men covered by an RPP declined from 3.1 million to just under 3 million.

Between 1991 and 2001, the gap between men and women participating in RPPs closed significantly, from almost 1 million to less than half a million members. The increase for women can be attributed to the growth in their labour force participation. Among men, membership was affected by the recession of the early 1990s.

From 1991 to 2001, RPP membership in the private sector grew 6.7%, compared with a 1.3% decline in the public sector. Both rates generally correspond to changes in the size of the workforce in each sector. Private-sector membership stood at 2.9 million at the end of 2001, compared with 2.5 million for the public sector.

In 2001, total RRSP room available to taxfilers aged 25 to 64 reached \$284.9 billion, a six-fold increase since 1991. Less than 9% of available contribution room has actually been used, since the majority of taxfilers use only a small portion of their available room in a given year. Since 1991, unused RRSP room has grown much faster in the lower income groups.

In 2001, only 9% of taxfilers used 95% or more of their available RRSP room. The majority were aged 45 to 54 or had incomes greater than \$40,000.

In 2000, women aged 25 to 64 contributed about \$10 billion to an RRSP, up 8% from 1999; men contributed \$16.5 billion, up 0.2%.

For more information, see the November 17, 2003 issue of *The Daily* on the Statistics Canada's Web site (www.statcan.ca).

■ *Research and development personnel*

Employment in research and development activities increased by about one-third during the 1990s. In 2000, about 156,200 people were working in research and development, up from only 117,000 in 1991, a gain of 33.5%. From 1999 to 2000, research and development employment increased 4.4%, the fastest since a 13.0% jump in 1994.

Some 59% of these personnel were employed in the business enterprise sector, followed by higher education with 29%. The federal government employed 9%, provincial governments 2%, and private non-profit organizations 1%.

Researchers made up 102,630 (66%) of the total (which includes technicians and other support staff). This proportion increased steadily over the decade (from 58% in 1991), contributing to the increase in costs of performing research and development.

The highest concentrations of research and development personnel were in Ontario (46%) and Quebec (30%), followed by British Columbia (9%) and Alberta (6%).

For more information, see the November 7, 2003 issue of *The Daily* on the Statistics Canada's Web site (www.statcan.ca).

■ *Studies from other organizations*

■ *Payroll taxes and self-employment*

This paper quantifies the role of payroll taxes in the decision to be self-employed. It examines the effects of introducing a payroll tax that taxes employers but exempts the self-employed. It exploits two changes in tax legislation to confirm that it is legislation and not other sector-specific trends driving the results. Payroll taxes do indeed seem to influence the decision to be self-employed, with the probability of self-employment increasing as taxes on employees increase and vice versa. Furthermore, the return to self-employment appears to decline because of the tax, possibly due to inefficient allocation of labour towards self-employment. See "Payroll taxes and the decision to be self-employed" by M. Stabile, *International Tax and Public Finance*, 11 (1): 31-53, January 2004.

■ *Adjustment costs, organizational change and productivity in Canada*

A basic neoclassical production model is often used to assess the contribution of investment to output growth. In the model, investment raises the capital stock, and output growth increases in proportion to the growth in capital. It has been argued, however, that general purpose technology computers lead to process innovations and facilitate organizational co-investments. Since a learning period may be needed before firms realize the full potential of the new technology and begin to implement new processes, benefits may lag behind the growth in investment. In fact, during periods of rapid adoption of new technologies and equipment, firms may incur adjustment costs and struggle to maintain previous levels of output.

Using aggregate annual data from 1961 to 2001, the paper explores the magnitude of the effect that investment in new technology in the form of new computer hardware can have on output growth. Such investment seems to have a positive effect on output growth that cannot be explained by growth in inputs. This effect, however, is not instantaneous and is strongest three years after the initial investment. Furthermore, it appears that the effect of computer hardware investment has grown over time. See "The effect of adjustment costs and organizational change on productivity in Canada: Evidence from aggregate data," a working paper by Danny Leung, Bank of Canada, January 2004. Internet: www.bankofcanada.ca/en/res/2004/wp04-1.htm.

■ *Recent labour market developments in Canada*

In the year and a half leading up to mid-2003, both employment and labour force participation increased at an unusually rapid pace compared with domestic economic activity. Gains in employment were unusually large, relative to output growth, compared with gains in total hours worked. This is explained by a faster increase in the participation rate of those 55 and older, many of whom opted for part-time employment. This shift in the composition of employment contributed to a reduction in the length of the average workweek in 2002. As a result, labour input progressed at a markedly slower rate than employment and more in line with its historical relationship to output growth.

The 55 and older group will likely continue to participate strongly in the labour force, but as the economy rebounds and uncertainty diminishes, the cyclical component in the growth of part-time work should diminish and that of full-time employment increase. Employment growth should moderate in relation to output growth and there may be a cyclical rebound in labour productivity as total hours worked increase during the initial recovery in output growth. See "Recent labour market developments in Canada" by Richard Dion and Bill Laur, *Bank of Canada Review*, Autumn 2003. Internet: www.bankofcanada.ca/en/res/r03-4-eb.htm.

■ *'Brain abuse' in Canada*

Foreign credentials of many professional and skilled immigrants are not recognized in Canada. Consequently, they are underrepresented in the upper segments of the Canadian labour market. In particular, professional associations and employers give preference to Canadian-born and educated workers and deny immigrants access to the most highly desired occupations.

The notion of institutionalized cultural capital and the view of the educational system as a site of social reproduction provide the entry point for the theoretical argument. The study finds that the non-recognition of foreign credentials and dismissal of foreign work experience systematically excludes immigrant workers from the upper segments of the labour market. This finding is based on interviews with institutional administrators and employers in Greater Vancouver who service or employ immigrants from South Asia and the former Yugoslavia. See "Brain abuse, or the devaluation of immigrant labour in Canada" by H. Bauder, *Antipode*, 35 (4): 699-717, September 2003.

■ *Aging and work in Canada*

In Canada, public policy sets only a very broad framework concerning older workers. Few Canadian firms have explicit policies dealing with the aging of their workforce, but many policies have unanticipated consequences for older workers and the age composition of the workforce.

Focusing on downsizing, the paper draws on five case studies of firms in different sectors and with varying policies. It emphasizes the importance of firm-level

policy formation and notes that demography, technology and the economy do not have highly determining roles. Little evidence is found of explicit managerial concern for older worker issues. However, some firms actively, and others functionally, promote a weakening of the ties linking employees to the firm. This breaking of the old contract between firm and employee signals a shift toward greater individualism, and has structural and social psychological consequences. The concept of the progressive career, involving long-duration employment with a company and successive promotions up a corporate ladder, is eroding. See "Ageing and work in Canada: Firm policies" by V.W. Marshall and J.G. Marshall, *Geneva Papers on Risk and Insurance-Issues and Practice*, 28 (4): 625-639, October 2003.

■ **Labour market income inequality and mortality**

An ecological cross-sectional study of relations between income inequality and working age (25 to 64) mortality in 53 Canadian (1991) and 282 U.S. (1990) metropolitan areas using four measures of income inequality. Two labour market income concepts were used: labour market income for households with non-trivial attachment to the labour market, and labour market income for all households, including those with zero and negative incomes. Relations were assessed with weighted and unweighted bivariate and multiple regression analyses.

U.S. metropolitan areas were more unequal than their Canadian counterparts across inequality measures and income concepts. The association between labour market income inequality and working-age mortality was robust in the U.S. to both the inequality measure and income concept, but the association was inconsistent in Canada. Three of four inequality measures were significantly related to mortality in Canada when households with zero and negative incomes were included. In North American models, increases in earnings inequality were associated with hypothetical increases in working-age mortality rates of between 23 and 33 deaths per 100,000, even after adjustment for median metropolitan incomes.

This analysis of labour market inequality provides more evidence regarding the robust nature of the relation between income inequality and mortality in the U.S. It also provides a more refined understanding of the nature of the relation in Canada, pointing to the

role of unemployment in generating Canadian metropolitan-level health inequalities. See "Labour market income inequality and mortality in North American metropolitan areas" by C. Sanmartin, N.A. Ross, S. Tremblay, M. Wolfson, J.R. Dunn and J. Lynch, *Journal of Epidemiology and Community Health*, 57 (10): 792-797, October 2003.

■ **Cyclicalities of real wages**

This paper presents a first cross-country comparison of the cyclical behaviour of real wages. After controlling for changes in labour quality, the study finds that real wages are strongly procyclical in Canada, the United Kingdom, and the United States. In contrast, the cyclicalities of government-published real aggregate hourly wages varies substantially across these three countries. The disparity suggests that a direct comparison of the cyclical behaviour of real aggregate wages is misleading. Variations in labour quality also bias the cross-country correlation of several key labour market variables. See "A cross-country comparison of the cyclicalities of real wages" by H.M. Liu, *Canadian Journal of Economics*, 36 (4): 923-948, November 2003.

■ **Happiness in Canada since World War II**

Measures of average happiness in industrialized countries typically show little or no upward trend over time, despite substantial growth in real per capita incomes. This paper examines Canadian data to see if they support this generalization. The Canadian data have some overall positive trend. Some simple regressions suggest that per capita real incomes are positively associated with happiness, while unemployment and inflation appear to be negatively associated with happiness, a result also found in recent studies of Western Europe and the United States. Controlling for these variables, a negative time trend emerges. See "Happiness in Canada since World War II" by R. Hill, *Social Indicators Research*, 65 (1): 109-123, 2004.

■ **Family change and economic well-being in Canada**

This paper examines the relationship between family change and economic well-being among recent immigrant families with children during the 1977 to 1997 period. Whereas the average income-to-needs ratio of all Canadian families with children was up modestly over this period, this study documents a

substantial decline in the average level of economic well-being of recent immigrants. This study looks at the relevance of not only structural explanations that emphasize the role of labour markets or government policy in shaping the economic conditions of immigrants, but also the potential impact of shifts in the living arrangements and family structure of immigrants. More specifically, an increased incidence of lone parenthood has had a net negative influence on the economic well-being of immigrants, albeit not to the same extent as among non-immigrants. Yet other changes have had a slight positive effect, including

an ongoing decline in the average number of children per family, an upward shift in the age distribution of parents, and a slight increase in the tendency of immigrants to co-reside with family members beyond the immediate nuclear family.

See "Family change and economic well-being in Canada: The case of recent immigrant families with children" by J.Y. Liu and D. Kerr, *International Migration*, 41 (4): 113-140, 2003.

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Key labour and income facts

Selected charts and analysis

This section presents charts and analysis featuring one or more of the following sources. For general inquiries, contact Joanne Bourdeau at (613) 951-4722; bourjoa@statcan.ca.

Administrative data

Small area and administrative data

Frequency: Annual
Contact: Customer Services
(613) 951-9720

Business surveys

Annual Survey of Manufactures

Frequency: Annual
Contact: Dissemination agent
(613) 951-9497

Annual Surveys—Service Industries

Frequency: Annual
Contact: Lucie Lussier
(613) 951-0410

Business Conditions Survey of Manufacturing Industries

Frequency: Quarterly
Contact: Claude Robillard
(613) 951-3507

Census

Census labour force characteristics

Frequency: Quinquennial
Contact: Michel Côté
(613) 951-6896

Census income statistics

Frequency: Quinquennial
Contact: John Gartley
(613) 951-6906

Employment and income surveys

Labour Force Survey

Frequency: Monthly
Contact: Marc Lévesque
(613) 951-4090

Survey of Employment, Payrolls and Hours

Frequency: Monthly
Contact: Sylvie Picard
(613) 951-4090

Help-wanted Index

Frequency: Monthly
Contact: Sylvie Picard
(613) 951-4090

Employment Insurance Statistics Program

Frequency: Monthly
Contact: Sylvie Picard
(613) 951-4090

Major wage settlements

Bureau of Labour Information
(Human Resources Development Canada)
Frequency: Quarterly
Contact: (819) 997-3117
1 800 567-6866

Labour income

Frequency: Quarterly
Contact: Anna MacDonald
(613) 951-3784

Survey of Labour and Income Dynamics

Frequency: Annual
Contact: Client Services
(613) 951-7355 or
1 888 297-7355

Survey of Financial Security

Frequency: Occasional
Contact: Client Services
(613) 951-7355 or
1 888 297-7355

Survey of Household Spending

Frequency: Annual
Contact: Client Services
(613) 951-7355 or
1 888 297-7355

General social survey

Education, work and retirement

Frequency: Occasional
Contact: Client Services
(613) 951-5979

Social and community support

Frequency: Occasional
Contact: Client Services
(613) 951-5979

Time use

Frequency: Occasional
Contact: Client Services
(613) 951-5979

Pension surveys

Pension Plans in Canada Survey

Frequency: Annual
Contact: Patricia Schembari
(613) 951-9502

Quarterly Survey of Trusteed Pension Funds

Frequency: Quarterly
Contact: Bob Anderson
(613) 951-4034

Special surveys

Survey of Work Arrangements

Frequency: Occasional
Contact: Ernest B. Akyeampong
(613) 951-4624

Adult Education and Training Survey

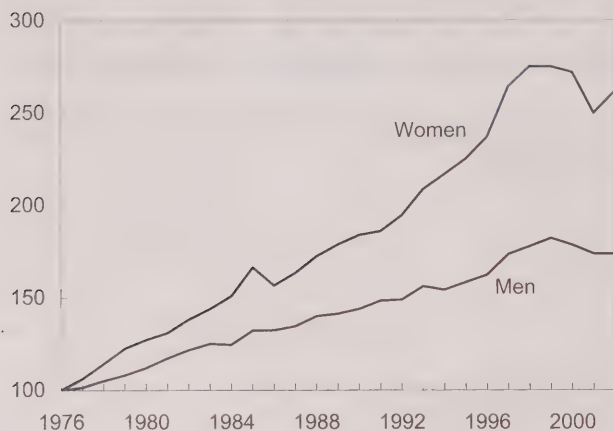
Frequency: Occasional
Contact: Client Services
(613) 951-7355 or
1 888 297-7355

Graduate Surveys

(Postsecondary)
Frequency: Occasional
Contact: Client Services
(613) 951-7608

Strong growth in self-employment over the last 25 years.

Self-employment (1976=100)

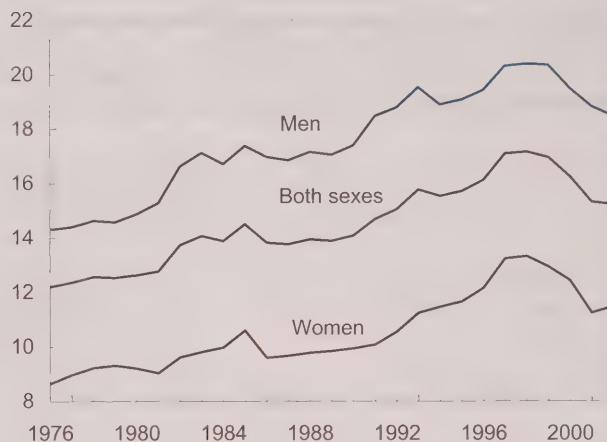


Source: Labour Force Survey

After a prolonged decline, self-employment grew faster than paid work over the last quarter of the 20th century. The trend reversed slightly in the late 1990s during a period of economic expansion. Growth was particularly strong among women.

Women account for a third of all entrepreneurs.

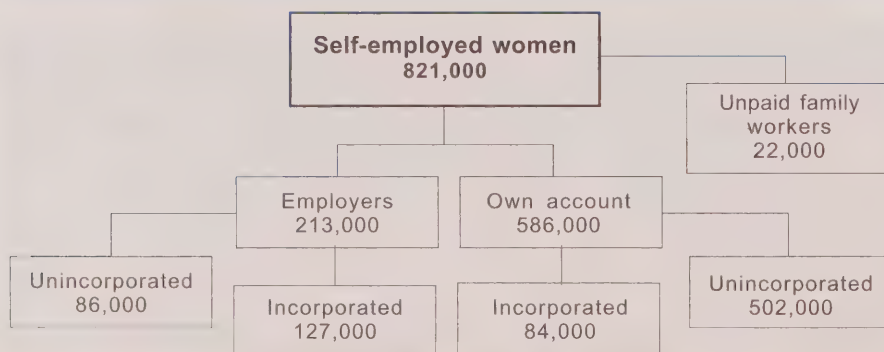
Self-employment rate (%)



Source: Labour Force Survey

In 2002, almost one in six workers in Canada were self-employed. The self-employment rate for women rose from 9% in 1976 to 11% in 2002. By 2002, women accounted for 35% of all self-employed, up from 26% in the mid 1970s, but down slightly from the peak of 36% in 1998.

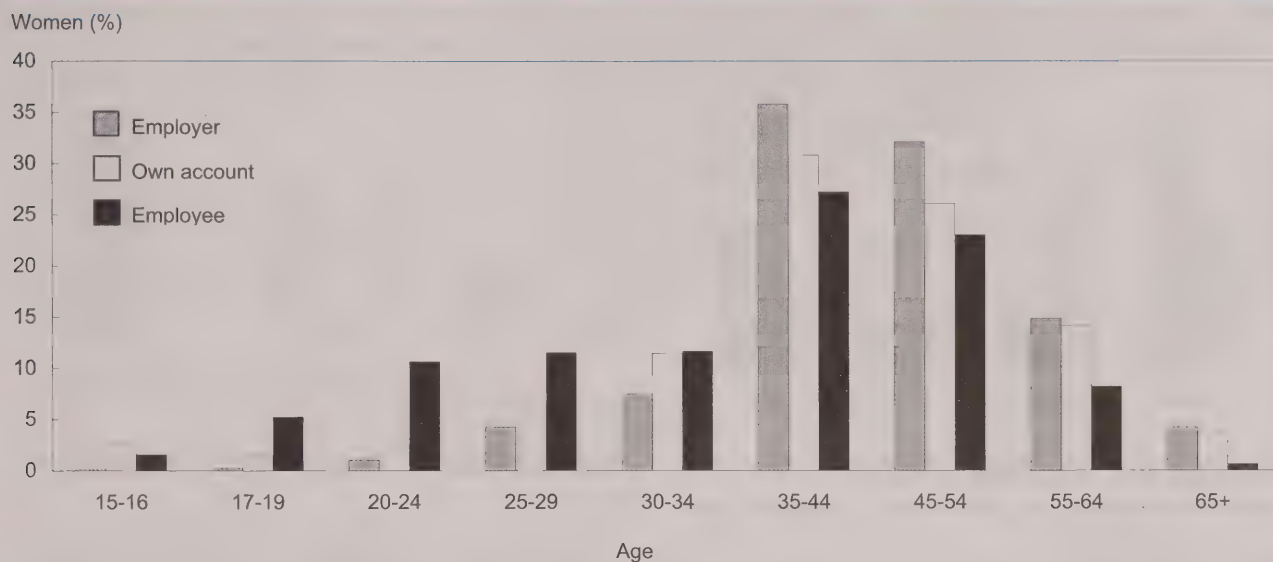
Almost three-quarters of women entrepreneurs worked on their own in 2002.



Source: Labour Force Survey, 2002

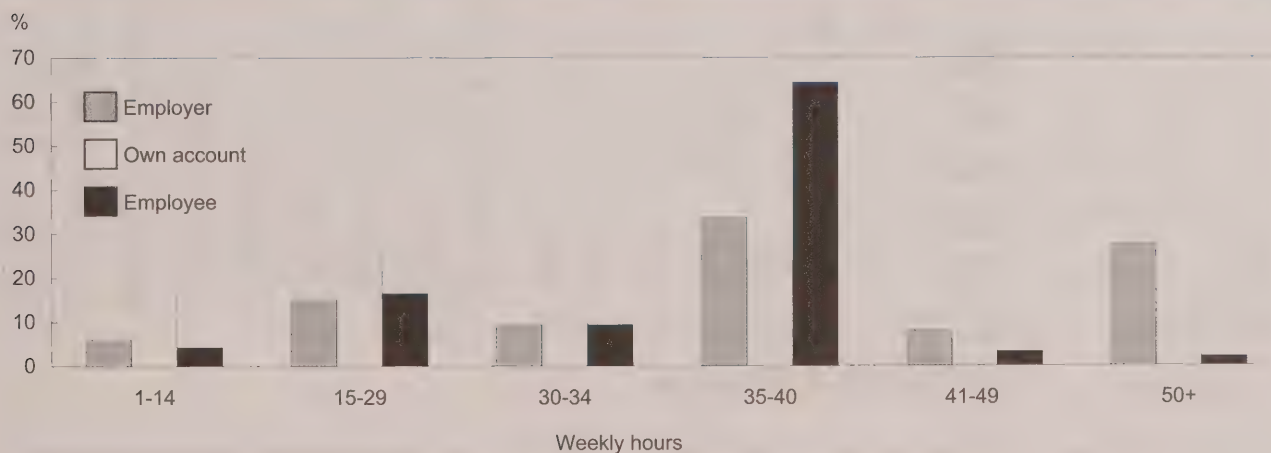
The vast majority of women entrepreneurs work on their own (71%) although the number who are employers is growing. From 1976 to 2002, self-employed women with paid help increased from 16% to 26%, while those who were unpaid family workers decreased dramatically—from 34% to 3%.

The likelihood of women being self-employed is highest among those aged 35 to 54.



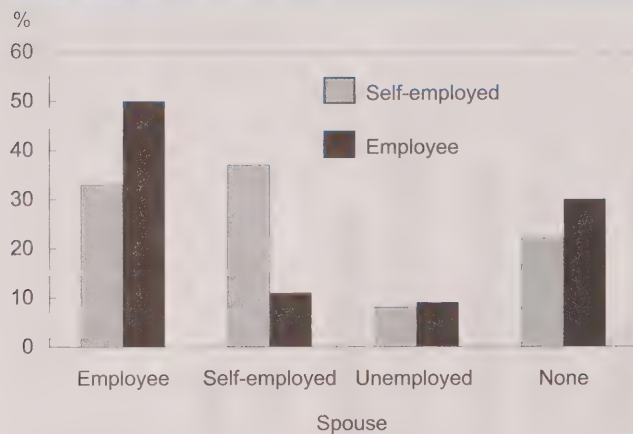
Source: Labour Force Survey, 2002

Among women entrepreneurs, employers were more likely to work long hours.



Source: Labour Force Survey, 2002

Only a third of women entrepreneurs have a spouse who is a paid employee.



Source: Labour Force Survey, 2002

Three times as many self-employed women have spouses who are also self-employed compared with women who are employees.

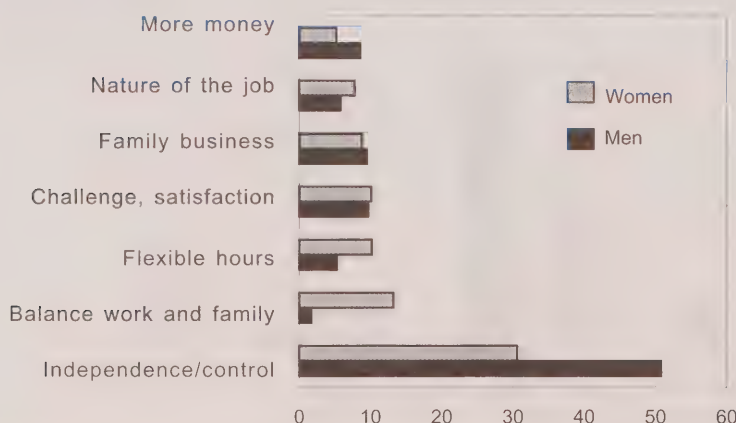
Involuntary part-time work is lowest among women employers.



Source: Labour Force Survey, 2002

Four in 10 own-account, self-employed women work part time, twice the rate of women employers and employees. Involuntary part-time is less common for the self-employed (especially employers) than for employees.

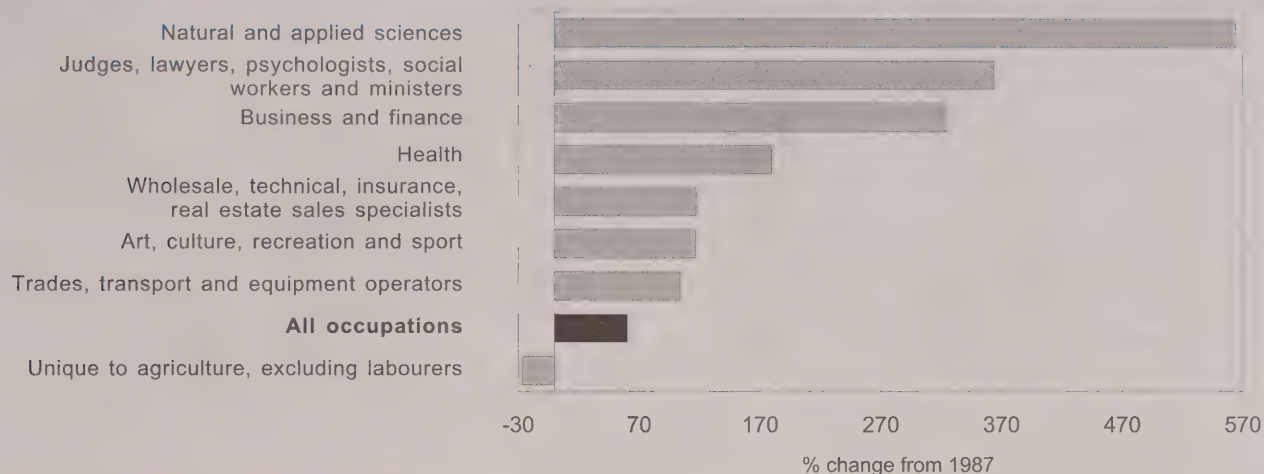
Independence and control are the main reasons for voluntary self-employment.



Source: Survey of Self-employment, 2000

The motivation for becoming self-employed tends to differ between men and women. For both men and women, the main reason was independence and control. Balancing work and family came second for women, while men were looking for challenge and satisfaction. Flexibility and balancing work and family were more common reasons for women than for men. Women employers were attracted by independence, control and challenge; this was important to the own-account self-employed in addition to flexibility and work-family balance.

Science occupations showed the highest self-employment growth for women entrepreneurs.



Source: Labour Force Survey, 1987 and 2002

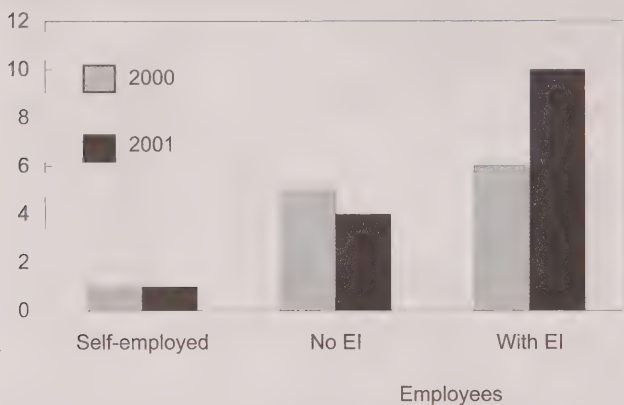
Annual earnings are highly skewed to the lower end of the distribution among adult women entrepreneurs, with just over 50% earning less than \$15,000 in 2000.



Source: Survey of Labour and Income Dynamics, 2000

Half of women entrepreneurs are back at work within a month after childbirth.

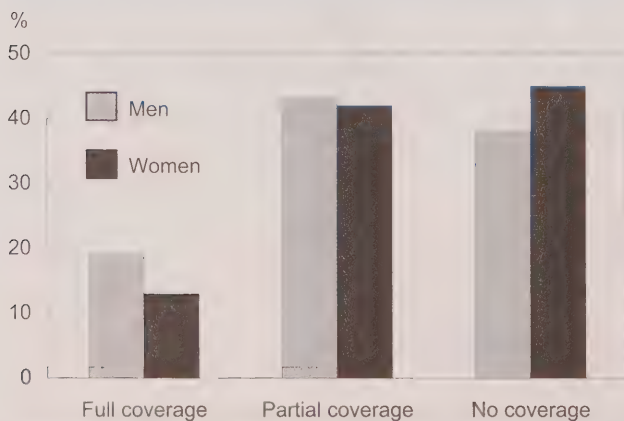
Median months before return



Source: Employment Insurance Coverage Survey, 2000 and 2001
EI: Maternity and/or parental benefits

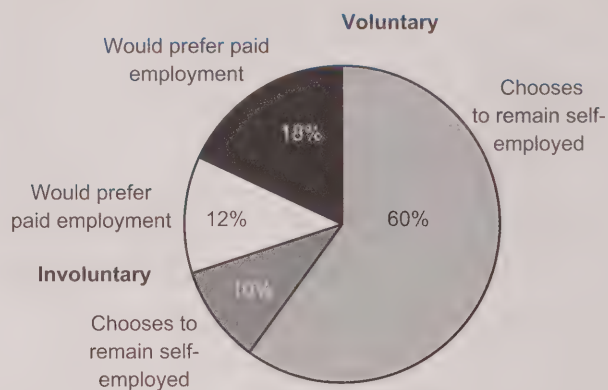
The potential for major loss of income spurred early return to work for self-employed women. From 2000 to 2001, median months off work following childbirth for self-employed women and those without maternity or parental benefits remained relatively stable while nearly doubling for employees receiving such benefits.

Entrepreneurs risk having few or no non-wage benefits.



Source: Survey of Self-employment, 2000

Most women entrepreneurs are self-employed voluntarily and would not prefer paid work.



Source: Survey of Self-employment, 2000

Not all women entrepreneurs are satisfied with their situation. In 2000, 6 in 10 became self-employed voluntarily and would choose to remain so, but 30% would prefer paid employment.

Compared with employees, the self-employed are less likely to be covered by extended health, dental and disability insurance plans. Only 19% of men and 13% of women had full coverage, mostly through a spousal plan rather than direct purchase or membership in an association. Four in 10 self-employed men and women would be interested in paying premiums to an income insurance program.

For further information, contact Henry Pold, Labour and Household Surveys Analysis Division. He can be reached at (613) 951-4608 or henry.pold@statcan.ca.



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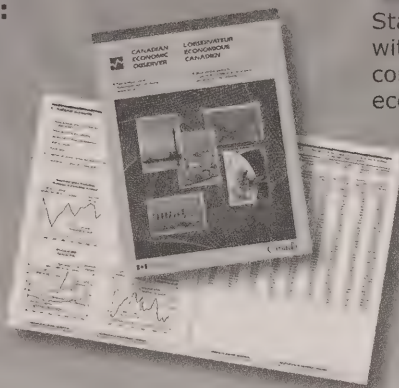
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 - IMMIGRANTS AND VISIBLE MINORITIES
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■ Articles

5 Minimum wage workers

Deborah Sussman and Martin Tabi

Although minimum wage workers are often young people living with parents, others in this category are trying to support a family. To evaluate the effects of a change in the minimum wage, knowing who works for minimum wage and the types of jobs they hold is essential.

15 Permanent layoff rates

René Morissette

Between the 1980s and the 1990s, the average likelihood of being laid off did not increase substantially. But for those who did lose their jobs, what were the chances of finding a new one? The Longitudinal Worker File is used to examine separations and hirings during the period.

25 Sidelined in the labour market

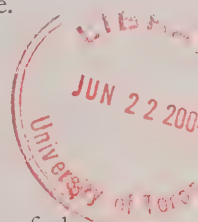
Vincent Dubé

Long-term unemployment is costly to both society and the individual. In economic terms, it leads to a decrease in tax revenues, lessened productivity, and increased costs for social and health care programs. On a personal level, it is associated with financial problems, loss of self-esteem, and health problems. Between 1976 and 2003, long-term unemployment was closely tied to the business cycle.

32 Low income among immigrants and visible minorities

Boris Palameta

Moving to a new country presents challenges, many of them economic. Although the majority of immigrants are no more likely than those born in Canada to be in low income, certain groups are vulnerable.



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ON LABOUR AND INCOME

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38 Low income in census metropolitan areas

Andrew Heisz and Logan McLeod

Business people, politicians and the general public alike share an interest in renewing community life in Canada's urban centres. Addressing poverty, enhancing the business climate, and providing learning and working opportunities are some of the issues. Understanding which groups are in low income and where they live is one important factor. Census data are used to describe the income of Canadians from an urban perspective between 1980 and 2000.

45 Income replacement among recent widows

Richard V. Burkhauser, Philip Giles, Dean R. Lillard, Johannes Schwarze

The death of a husband has far-reaching implications, not the least of which is how his earnings will be replaced. Government programs are in place to mitigate the effects of major earnings losses on households; private institutions also play an important role. The economic well-being of recent widows during the 1990s is compared in four OECD countries: Canada, the United States, Great Britain and Germany.

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Perspectives on Labour and Income

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Highlights

In this issue

■ Minimum wage workers ... p. 5

- In 2003, some 547,000 people worked at or below the minimum wage set by their province. Nearly half were aged 15 to 19—the majority of them students and living with their parents.
- Women aged 25 to 54 accounted for 22% of minimum wage workers. This may reflect the tendency for some women to work part time, often at a lower paid job, in order to balance paid work with childcare and other family responsibilities.
- Almost all minimum wage workers were employed in the service sector. Accommodation and food services, in particular, had the highest incidence, with one in six workers working at or below minimum wage.
- Part-time employment is a notable feature of minimum wage work. Some 60% of minimum wage workers worked part time compared with less than 20% of all employees.

■ Permanent layoff rates ... p. 15

- Despite some high-profile corporate downsizing, permanent layoff rates were virtually the same in the 1980s and the 1990s. In 1989, 5.9% of employees permanently lost their job. In 1999, a comparable year in terms of labour market conditions, the proportion stood at 5.7%.
- While overall permanent layoff rates did not change, two groups—men aged 55 to 64 and women 35 to 44—saw their rates rise. The men's rate increased from 7.4% in 1989 to 8.1% in 1999, and the women's from 3.2% to 3.7%.

- The risk of permanent layoff rose for large firms, but either fell or changed little in smaller companies. Even though job loss rose in large firms, employees in small firms were, at the end of the 1990s, about three times more likely to lose their job.
- While workers' chances of losing their job did not rise substantially during the 1990s, their chances of finding a new job in the event of a layoff fell markedly. Between 1985 and 1989, 25% of jobs existing in a given year were filled by new hirings. This rate declined to 21% between 1995 and 1999.
- As companies hired fewer workers, employees tended to quit much less often. While 9.2% of workers quit their job permanently in 1989, only 7.3% did so in 1999. The decline was widespread and not simply due to the aging of the workforce.
- Although employees were no more likely to lose their jobs, more were choosing to stay longer with their employer. Hence, average job duration rose between the 1980s and the 1990s.

■ Sidelined in the labour market ... p. 25

- During the period from 1976 to 2003, the incidence of long-term unemployment reached a peak of 17% in 1994. In 2003, less than 10% of the unemployed spent a year or more looking for work.
- Despite a fairly comparable overall unemployment rate (approximately 7.5%), the incidence of long-term unemployment in 2003 was 39% higher than in 1990, and more than double (+120%) that in 1977.
- Some groups and regions were harder hit than others—in particular, men, older workers, people with less education, and individuals in Quebec and British Columbia.

■ Low income among immigrants and visible minorities ... p. 32

- Recent immigrants were two to three times more likely than those born in Canada to experience low income, regardless of sex, level of education, family type, or province of residence. Furthermore, recent immigrants who experienced low income for at least one year were more likely than other Canadians to experience it repeatedly (three or more years).
- Canadian-born visible minorities were no more likely than other Canadians to experience low income. However, visible minority immigrants were more likely than other immigrants to experience low income, even among immigrants who had been in Canada for over 17 years. Furthermore, visible minorities (even the Canadian-born) who experienced low income for at least one year were more likely to experience it repeatedly.
- In general, seniors were less likely to experience low income than any other age group. However, immigrant seniors who came to Canada in their 50s or late 40s were roughly five times more likely than their Canadian-born counterparts to experience low income.

■ Low income in census metropolitan areas ... p. 38

- During the 1990s, the low-income rate for all census metropolitan areas combined rose slightly, from 17.2% to 17.7%. The largest rise was in Vancouver, where the rate increased from 15.8% to 19.1%.
- Three groups—recent immigrants, Aboriginal people and lone-parent families—were more likely than others to live in low-income neighbourhoods. In 2000, 11.7% of Aboriginal people lived in low-

income neighbourhoods, as did 9.7% of recent immigrants, and 8.7% of lone-parent families. This compares with 4.4% of CMA residents overall.

- Recent immigrants in particular saw a rise in their low-income rate. The rate reached 35% in 2000 (nearly twice the overall CMA average), compared with 23.1% in 1980.

■ Income replacement among recent widows ... p. 45

- One year after the death of her husband, a widow's income, adjusted for household size, is very similar to what it was the year before. The 'income replacement rate' of the median widow increased according to the age of her husband at death, ranging from 82% for those whose husbands died at less than age 55, to 98% for husbands who died at 75 or older.
- The financial situation of widows in Canada one year after the death of their husbands compares favourably with that of widows in the United States, Great Britain and Germany.

■ What's new? ... p. 51

■ Just released

Earnings of new immigrants
Moving out of low-paid work
Labour productivity

Perspectives

Minimum wage workers

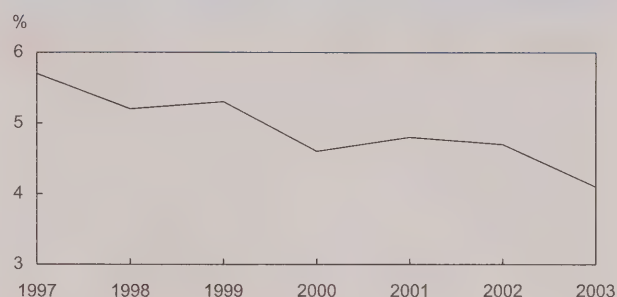
Deborah Sussman and Martin Tabi

They are young. They are single. They are students. They work part time, many in retail stores and restaurants. They are sons and daughters living at home, working to finance their education and other expenses. Less frequently they are middle-aged, married, or working full time. Some are men and women trying to support their families, while others are older workers looking to supplement their pension. Together, they make up the 547,000 people (about 4% of the paid workforce) who worked for minimum wage or less in 2003 (Chart A).

Minimum wage legislation is one of Canada's oldest social policies. Originating in New Zealand, Australia and Great Britain, it was introduced in Canada in the early part of the 20th century as part of an effort to promote fairer treatment of the most vulnerable employees—namely, women and children. It was later extended to men. Eventually, all provinces enacted minimum wage legislation as employment standards became more widespread (HRDC 2001).

Over the years, minimum wage legislation has become the subject of considerable debate, primarily revolving around whether current rates are too low or too high. On the one hand, some argue that the minimum wage should be increased as an important policy tool for addressing wage inequalities as well as an essential element in helping to meet anti-poverty and social welfare goals. By this reasoning, the minimum wage should be set at a rate where basic needs may be adequately met (Battle 2003; Goldberg and Green 1999; Black and Shaw 1998). On the other hand, the argument is that a minimum wage is a 'killer of jobs' and a 'passport to poverty,' since too high a minimum wage can artificially increase the cost of labour, often

Chart A: The proportion of employees earning minimum wage has fallen steadily since 1997.



Source: Labour Force Survey

to the detriment of the very people it is designed to help (Law 1999). Increases in the minimum wage would reduce the demand for workers (as firms find substitutes for the now more costly labour input) and might also increase the supply of workers (as some would be encouraged to consider jobs that they would previously not have found attractive), resulting in reduced employment and increased unemployment rates (Sarlo 2000; Law and Mihlar 1998; Shannon and Beach 1995).¹

Both these arguments rely in part on the prevailing socio-political climate, as well as on the characteristics of the minimum wage workers themselves and the types of jobs they hold. This study examines the latter, looking at which workers might be affected by a change in the minimum wage.

As implied, the minimum wage is the lowest rate an employer can pay employees covered by the legislation (see *Data source and definitions*).² Minimum wage legislation is by no means static. Since 1997, over 30 increases in minimum wage rates have been recorded across the provinces. In 2002 alone, seven provinces raised their minimum wage, as did four in 2003.³

Deborah Sussman is with the Labour and Household Surveys Analysis Division. She can be reached at (613) 951-4226 or deborah.sussman@statcan.ca. Martin Tabi is with Finance Canada.

In this article, minimum wage workers are those working for the 'minimum wage for experienced adult workers' (or the 'general adult rate') set by their province. Those who earn less are also included. Hourly earnings below the set minimum do not necessarily indicate violations of the legislation; they may instead reflect workers who are either exempt from the legislation or subject to lower minimum wage rates. One such special category covers young workers. This is of particular interest given the significant presence of young people among minimum wage workers. Although there has been a marked trend towards their repeal, youth rates still exist in Ontario.⁴ And in Newfoundland and Labrador, the general adult rate does not apply to workers under 16 years of age. These young workers are not strictly minimum wage workers but are included here for simplicity.⁵

Lowest proportion in Alberta

In 2003, some 547,000 people worked at or below the minimum wage set by their province: 4.1% of employees, down from 5.7% in 1997. In 2003, minimum wage rates ranged from a high of \$8.00 per hour in British Columbia to a low of \$5.90 in Alberta (Table 1). The latter rate has remained unchanged since October 1999. Alberta also had the lowest proportion of employees working at or below minimum wage (1.1%), while Newfoundland and Labrador had the highest (8.5%). The relatively high proportion in Newfoundland and Labrador may be due in part to

less favourable labour market conditions, given an unemployment rate of 16.7% in 2003, more than double the national rate of 7.6%. Similarly, comparatively more favourable market conditions in Alberta may have contributed to the low proportion in that province (an unemployment rate of 5.1% in 2003). That is, more opportunities in Alberta may have translated into greater bargaining power for workers (Statistics Canada 1998). However, high unemployment rates are not necessarily associated with a greater proportion of workers receiving minimum wage or less. For example, Prince Edward Island had the second-highest unemployment rate in 2003 (11.1%), yet its proportion of minimum wage workers (3.8%) was slightly less than the national average. This suggests that other factors such as industry composition, part-time rate, the economic cycle, and legislation play a role.

Part of the disparity in provincial incidence of working for minimum wage may be attributed to the variation in minimum wage rates (or general adult rates).⁶ If a universal threshold of \$8.00 had been used (the highest provincial rate), some 1.6 million workers would have been below that rate in 2003, about 12% of employees. By far the lowest proportion of employees earning \$8.00 or less would have been in British Columbia (5.6%), while Newfoundland and Labrador would have had the highest (25.0%). Ontario (11.2%) and Alberta (12.5%) would have remained among the provinces with the lowest proportions; however, New Brunswick (19.3%) and

Table 1: Employees earning minimum wage or less

	Total employees	Minimum wage		General adult minimum wage*	Unemployment rate	Workers earning \$8.00/hour or less
		Total	Incidence			
	'000	'000	%	\$/hour	%	%
Province						
Newfoundland and Labrador	190.5	16.1	8.5	6.00 (November 2002)	16.7	25.0
Nova Scotia	379.2	21.9	5.8	6.25 (October 2003)	9.3	18.9
British Columbia	1,639.7	92.1	5.6	8.00 (November 2001)	8.1	5.6
Quebec	3,165.0	161.9	5.1	7.30 (February 2003)	9.1	11.6
Saskatchewan	386.5	19.1	4.9	6.65 (November 2002)	5.6	17.9
Manitoba	478.2	22.1	4.6	6.75 (April 2003)	5.0	15.2
Canada	13,333.2	547.0	4.1	...	7.6	11.7
New Brunswick	303.2	12.3	4.1	6.00 (August 2002)	10.6	19.3
Prince Edward Island	58.0	2.2	3.8	6.25 (January 2003)	11.1	20.0
Ontario	5,319.4	184.3	3.5	6.85 (January 1995)	7.0	11.2
Alberta	1,413.6	15.1	1.1	5.90 (October 1999)	5.1	12.5

Source: Labour Force Survey, 2003

* (Month in which the rate became effective.)

Prince Edward Island (20.0%) would have been among those with the highest (Table 1). In other words, the ranking of provinces shifts drastically according to the wage threshold chosen.

Most are women

Women are more likely than men to be working for minimum wage. In 2003, women accounted for almost two-thirds of minimum wage workers, yet they made up just under half of employees (Table 2)—hence their higher rate of working for minimum wage

Table 2: Minimum wage workers by age and sex

	Total employees	Minimum wage	
		Total	Incidence
	'000	'000	%
Both sexes			
15 and over	13,333.2	547.0	4.1
15 to 19	864.5	260.0	30.1
20 to 24	1,433.7	84.1	5.9
25 to 34	3,104.7	60.1	1.9
35 to 44	3,530.9	57.2	1.6
45 to 54	3,017.3	50.4	1.7
55 and over	1,382.2	35.2	2.5
Men			
15 and over	6,819.9	198.5	2.9
15 to 19	433.9	103.5	23.9
20 to 24	729.6	32.8	4.5
25 to 34	1,619.3	20.7	1.3
35 to 44	1,800.8	14.7	0.8
45 to 54	1,500.5	14.3	1.0
55 and over	735.9	12.4	1.7
Women			
15 and over	6,513.3	348.5	5.4
15 to 19	430.6	156.5	36.3
20 to 24	704.1	51.3	7.3
25 to 34	1,485.3	39.4	2.7
35 to 44	1,730.1	42.4	2.5
45 to 54	1,516.8	36.1	2.4
55 and over	646.2	22.8	3.5

Source: Labour Force Survey, 2003

(1 in 20 women compared with 1 in 35 men). This overrepresentation of women existed in all age groups, with rates for women being almost double those for men. This may be a function of some of the occupations held by women that are associated with lower wages.

Age a major factor

Teenagers between the ages of 15 and 19 had by far the highest rate of working for minimum wage—almost 1 in 3 (Table 2). Indeed, nearly half of all minimum wage workers were 15 to 19, with a large majority (77%) attending school either full time or part time. Another 15% were between 20 and 24, with many of them (44%) students.⁷

Students with summer jobs in particular were more likely to be working for minimum wage (1 in 5) than others the same age (1 in 7).⁸ Indeed, although only 45% of those 15 to 24 employed in the summer were students, they made up 71% of youths working for minimum wage during that time. The growing financial burden of postsecondary education likely encourages many students to take jobs, particularly during the summer months, to help finance their educational and other expenses. However, young workers often lack the job experience or education to command higher wages, or are interested in only short-term employment, leading many of them to accept minimum wage jobs (Statistics Canada 1998).

In sum, almost two-thirds of minimum wage workers were under 25, compared with only 17% of all employees. This translates into an incidence rate for this age group more than eight times that of those 25 and older. The prevalence of teenagers and young adults among minimum wage workers reflects the characteristics associated with minimum-wage work. These include lower levels of education, service-sector jobs, part-time work, and shorter job tenure.

Although the incidence of working for minimum wage declined sharply with age, it rose slightly among those 55 and older (Table 2). This suggests that some older workers may be working to supplement their pension income or to stay active. Working seniors tend to be concentrated in certain occupations, some of which are associated with lower wages. These occupations include retail salespersons and sales clerks; general office clerks; janitors, caretakers and building superintendents; babysitters, nannies and parent's helpers; and light duty cleaners (Duchesne 2004).

In addition, a sizeable portion (31%) of minimum-wage workers were between the ages of 25 and 54, many of them women (Chart B). This may reflect the tendency for some women to work part time, often at a lower paid job, perhaps enabling some to balance paid work with childcare and other family

Table 3: Minimum wage workers by selected characteristics

	Teenagers and young adults			Individuals 25 and over		
	Total employees	Minimum wage		Total employees	Minimum wage	
		Total	Incidence		Total	Incidence
	'000	'000	%	'000	'000	%
Total	2,298.2	344.1	15.0	11,035.1	202.9	1.8
Education						
Less than high school	617.5	174.0	28.2	1,334.4	49.4	3.7
Less than grade 9	35.7	9.4	26.3	355.2	21.0	5.9
Some high school	581.9	164.6	28.3	979.2	28.4	2.9
High school graduate	533.3	61.8	11.6	2,212.4	47.4	2.1
At least some postsecondary	1,147.4	108.3	9.4	7,488.3	106.3	1.4
Some postsecondary	530.2	74.0	14.0	843.2	18.9	2.2
Postsecondary certificate or diploma	488.1	27.8	5.7	4,059.4	56.8	1.4
University degree	129.1	6.5	5.0	2,585.7	30.6	1.2
Industry						
Agriculture	39.7	7.1	17.9	80.5	5.3	6.6
Forestry, fishing, mining, oil and gas	27.3	F	F	211.8	1.9	0.9
Utilities	6.7	F	F	124.7	F	F
Construction	108.6	1.8	1.7	535.3	5.1	1.0
Manufacturing	227.6	7.1	3.1	1,976.6	13.6	0.7
Trade	652.3	131.1	20.1	1,507.1	42.7	2.8
Transportation and warehousing	51.3	2.0	3.9	577.3	9.0	1.6
Finance, insurance, real estate and leasing	87.6	7.1	8.1	701.1	10.6	1.5
Professional, scientific and technical	73.8	3.7	5.0	579.1	5.0	0.9
Business, building and other support*	102.5	6.9	6.7	366.1	9.3	2.5
Educational services	72.0	6.2	8.6	929.1	11.7	1.3
Health care and social assistance	129.7	8.0	6.2	1,351.9	17.8	1.3
Information, culture and recreation	156.5	26.0	16.6	439.0	6.0	1.4
Accommodation and food	420.6	118.9	28.3	500.8	40.9	8.2
Other services	85.6	12.5	14.6	396.1	19.8	5.0
Public administration	56.3	4.5	8.0	758.6	3.7	0.5
Full-time/part-time status						
Full-time	1,259.2	86.9	6.9	9,634.3	132.5	1.4
Men	722.7	36.8	5.1	5,381.3	48.4	0.9
Women	536.5	50.1	9.3	4,253.0	84.1	2.0
Part-time	1,039.0	257.2	24.8	1,400.7	70.4	5.0
Men	440.8	99.5	22.6	275.2	13.8	5.0
Women	598.2	157.8	26.4	1,125.5	56.6	5.0
Job tenure						
1 to 3 months	459.9	90.3	19.6	506.0	23.0	4.5
4 to 6 months	347.0	64.6	18.6	503.9	21.0	4.2
7 to 12 months	404.9	71.8	17.7	751.7	24.9	3.3
13 to 60 months	999.8	112.7	11.3	3,473.6	69.5	2.0
61 or more months	86.6	4.8	5.5	5,799.9	64.4	1.1

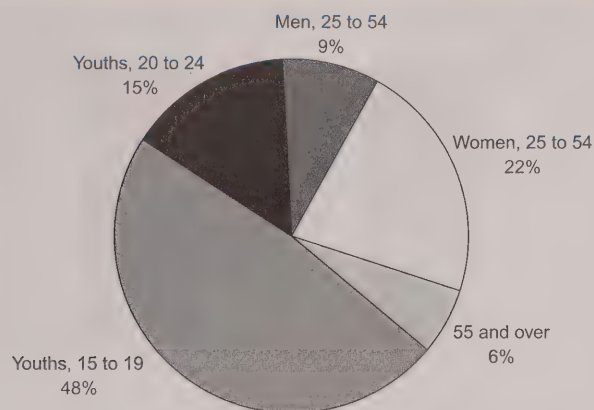
Source: Labour Force Survey, 2003

* Previously called management of companies, administrative and other support services.

responsibilities. It may also be that a number of workers spend their working lives in a series of minimum wage jobs (Carrington and Fallick 2001). For this group, minimum wages are not merely a transitory

phenomenon, and these individuals may require particular attention in any efforts aimed at improving their financial situation.

Chart B: People under 25 and women 25 to 54 accounted for 85% of minimum wage workers.



Source: Labour Force Survey, 2003

Education makes a difference

Working for minimum wage or less was much more prevalent among those with less than a high school diploma (1 in 9) than among those with at least some postsecondary training (1 in 40) (Table 4). In fact, 41% of all minimum wage workers did not have a high school diploma compared with only 15% of all employees. This would explain the high rates of minimum wage work among young people, many of whom have not yet completed their studies. Removing teenagers and young adults confirms the role education plays in minimum wage work. Indeed, among those 25 and over (who presumably have completed their first cycle of formal education), those who had not completed high school were still more likely to be working for minimum wage than those who had a high school diploma and those with some postsecondary education (Table 3).

Where do they work?

Almost all minimum wage workers were employed in the service sector. Accommodation and food services, in particular, had the high-

est incidence, with 1 in 6 working at or below minimum wage (Table 5). Working for minimum wage was also prevalent in trade (1 in 12). These industries are characterized by high concentrations of youth and part-time workers. Both groups tend to have less work experience and weaker attachment to the labour force, making them prime candidates for low-paying jobs. These industries often do not require specialized skills and training or a postsecondary education. Low levels of unionization may also account for lower wages. Women are also highly present in these industries, where many jobs are likely to be part-time.

Agriculture also had a relatively high incidence of minimum wage (1 in 10). Farm labour has traditionally been excluded from minimum wage provisions, and workers in this industry are often not unionized. However, they do sometimes benefit from non-wage remuneration such as free room and board (Akyeampong 1989). Another benefit may include some spouses of unincorporated farmers being paid a nominal wage as a tax deductible business expense. Following a change in tax legislation allowing owners of unincorporated businesses to claim a spousal employee's wages as a deduction, the number of women employees in agriculture rose markedly while unpaid family workers decreased (Duchesne 1989).⁹

In contrast, manufacturing, public administration and construction were among industries with the lowest rates of minimum wage workers. This is not surprising since they represent some of the most highly unionized industries (Akyeampong 2003).

Table 4: Minimum wage workers by educational attainment

	Total employees	Minimum wage	
		Total	Incidence
	'000	'000	%
Education	13,333.2	547.0	4.1
Less than high school	1,951.9	223.3	11.4
Less than grade 9	390.8	30.3	7.8
Some high school	1,561.1	193.0	12.4
High school graduate	2,745.7	109.1	4.0
At least some postsecondary	8,635.6	214.6	2.5
Some postsecondary	1,373.3	93.0	6.8
Postsecondary certificate or diploma	4,547.5	84.6	1.9
University degree	2,714.8	37.0	1.4

Source: Labour Force Survey, 2003

A slightly different picture emerges when age is factored in. Among teenagers and young adults, about 1 in 4 working in the accommodation and food services earned minimum wage or less (Table 3). This was also the case for 1 in 5 in trade, and 1 in 6 in agriculture. Among workers 25 and over, those in accommodation and food services were the most likely to be earning minimum wage or less (1 in 12), followed by those in agriculture (1 in 15), and in trade (1 in 35).

Part-time jobs prominent

Part-time employment (less than 30 hours per week) is another notable feature of minimum wage work, with a rate almost seven times higher than full-time (Table 6). In fact, 60% of minimum wage workers worked part time, compared with less than 20% of all employees (Chart C).

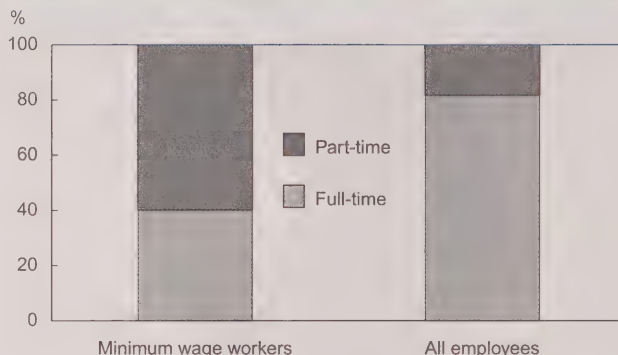
Part-time was even more apparent among teenagers and young adults. This group made up almost four-fifths of all part-time minimum wage workers, reflecting the large number of students among the ranks. Indeed, the vast majority of young minimum wage workers worked part time because they were attending school. In relative terms, almost 1 in 4 young people working part time earned minimum wage. This rate was higher among women than men.

By contrast, only one-third of minimum wage workers 25 and older worked part time. These workers cited economic reasons (business conditions, could not find full-time work), personal preference, and personal or family responsibilities as the main reasons.

Most jobs are short-term

More than half of all minimum wage workers had been in their current job for no more than one year, compared with only 22% of all employees (Table 7). Many of these jobs are occupied by students and other young people at the start of their careers. With more education and experience, these workers move into better paying jobs. Indeed, working for minimum

Chart C: Almost 60% of minimum wage workers worked part time, compared with less than 20% of all employees.



Source: Labour Force Survey, 2003

wage was most prevalent among those who had been at their job for three months or less (1 in 9), and least common among those who had been there for more than five years (1 in 80). Again, the pattern holds for those 25 and over (Table 3).

Table 5: Minimum wage workers by industry

Industry	Total employees '000	Minimum wage	
		Total '000	Incidence %
Goods-producing	3,338.7	43.6	1.3
Agriculture	120.2	12.4	10.3
Forestry, fishing, mining, oil and gas	239.0	3.1	1.3
Utilities	131.4	F	F
Construction	643.9	6.9	1.1
Manufacturing	2,204.2	20.7	0.9
Service-producing	9,994.5	503.4	5.0
Trade	2,159.5	173.8	8.0
Transportation and warehousing	628.7	11.0	1.7
Finance, insurance, real estate and leasing	788.7	17.7	2.2
Professional, scientific and technical	652.8	8.7	1.3
Business, building and other support*	468.6	16.2	3.5
Education	1,001.1	17.9	1.8
Health care and social assistance	1,481.6	25.8	1.7
Information, culture and recreation	595.6	32.0	5.4
Accommodation and food	921.5	159.8	17.3
Other	481.6	32.3	6.7
Public administration	814.9	8.2	1.0

Source: Labour Force Survey, 2003

* Previously called management of companies, administrative and other support services.

Table 6: Minimum wage workers by full-time/part-time status

	Total employees	Minimum wage	
		Total	Incidence
	'000	'000	%
Total	13,333.2	547.0	4.1
Men	6,819.9	198.5	2.9
Women	6,513.3	348.5	5.4
Full-time	10,893.5	219.4	2.0
Men	6,104.0	85.2	1.4
Women	4,789.5	134.1	2.8
Part-time	2,439.7	327.7	13.4
Men	716.0	113.3	15.8
Women	1,723.7	214.4	12.4

Source: Labour Force Survey, 2003

Employed by both large and small firms but rarely unionized

Almost equal numbers of minimum wage workers were employed by large firms (more than 500 employees) and small firms (less than 20 employees). Together they accounted for three-quarters of all minimum wage workers in 2003 (Table 7). The incidence

of working for minimum wage, however, was highest among workers in small firms (1 in 13). This likely stems from lower unionization rates and weaker bargaining power found in smaller firms—only 8% of minimum wage workers were covered by a collective agreement, compared with 32% of all employees. Indeed, only 1 in 90 union members worked for minimum wage or less, compared with 1 in 20 non-union members. The large number of part-time workers, students and other young people working for minimum wage, combined with their sizeable presence in smaller firms, tends to inhibit the ability of these workers to organize and thereby command better wages (Akyaempong 1989).

Most live with parents

Since most Canadians belong to families, an individual earning minimum wage or less is not necessarily economically disadvantaged. However, low wages for the primary wage-earner could affect the economic well-being of all family members. A closer look at the family status of minimum wage workers provides insight into the earning power (or lack thereof) of the family as a whole.

Almost two-thirds of all minimum wage workers in 2003 lived with parents or other family members (Table 8), again reflecting the large number of minimum wage workers under 25 and in school. This is often a temporary situation until the completion of education and the accumulation of experience. The incidence of working for minimum wage in this group was three times the overall rate. Indeed, sons, daughters and other relatives living with family had some of the highest rates, particularly those under 20 and those attending school.

One-quarter of all minimum wage workers were part of a couple. However, the incidence rate for this group was only 1 in 60. More than three-quarters had employed spouses, most earning more than minimum wage. This may in part reflect women who take lower-paying part-time work while caring for young children (Statistics Canada 1998).

Table 7: Minimum wage workers by job tenure, firm size and union coverage

	Total employees	Minimum wage	
		Total	Incidence
	'000	'000	%
Job tenure	13,333.2	547.0	4.1
1 to 3 months	965.9	113.3	11.7
4 to 6 months	850.9	85.6	10.1
7 to 12 months	1,156.6	96.7	8.4
13 to 60 months	4,473.4	182.2	4.1
61+ months	5,886.5	69.2	1.2
Firm size	13,333.2	547.0	4.1
Less than 20 employees	2,627.8	199.7	7.6
20 to 99 employees	2,153.6	89.1	4.1
100 to 500 employees	1,928.9	48.8	2.5
More than 500 employees	6,623.0	209.4	3.2
Union membership	13,333.2	547.0	4.1
Union member or covered by collective agreement	4,318.6	45.7	1.1
Non-member and not covered by collective agreement	9,014.6	501.3	5.6

Source: Labour Force Survey, 2003

Data source and definitions

The **Labour Force Survey (LFS)** is a monthly household survey of about 54,000 households across Canada. Demographic and labour force information is obtained for all civilian household members 15 years of age and older. Excluded are residents of institutions, persons living on Indian Reserves, and residents of the Territories.

Every province and territory stipulates a minimum wage in its employment standards legislation. It is an offence for employers to pay eligible employees less than the set rate, regardless of how remuneration is calculated (hourly, daily, weekly, monthly, or on a piecework basis). Likewise, employees are prohibited from accepting pay that is less than the applicable minimum. The minimum wage rate varies from province to province, and a change can become effective in any month of the year. For example, effective May 1, 2002, Newfoundland and Labrador raised its minimum wage rate to \$5.75. This was followed shortly by an increase to \$6.00, effective November 1, 2002.

The self-employed are not covered by minimum wage legislation and as such are not included in the analysis. Unpaid family workers are also excluded.

Other exclusions and special coverage provisions vary and include young workers (Ontario and Newfoundland and Labrador), workers with disabilities (Alberta, Manitoba and Saskatchewan; rarely used), domestic and live-in care workers (New Brunswick, Prince Edward Island, Manitoba and Quebec), farm labour (Alberta, Manitoba, Ontario and Saskatchewan), and home-based workers (for example, teleworkers, and pieceworkers in the clothing and textile industry). Other specific minimum wage rates cover non-hourly and tip-related wage rates (for example, Ontario sets a minimum wage rate of \$5.95 for employees who serve alcoholic beverages in licensed establishments). A more complete description of exclusions and special rates is available from Human Resources and Development Canada's database on minimum wages—Internet: www110.hrdc-drhc.gc.ca/psait/spila/lmnec_eslc/eslc/salaire_minwage/intro/index.cfm/doc/english.

The number of employees working for minimum wage was calculated using the applicable **minimum wage for experienced adult workers** (also known as the **general adult rate**) for each province for each month of 2003. The average of these 12 monthly observations provides the annual estimate for each province, while the total for Canada is the sum of the provincial estimates.

The annual average of the monthly minimum wage rates was not chosen since it would lead to over/under coverage resulting from the inclusion/exclusion of employees whose hourly earnings were slightly above or below the actual minimum wage rate applicable in a given month. In addition, the use of one month to represent the whole year was not selected in order to control for fluctuations in highly seasonal industries and those dependent on minimum wage work such as accommodation and retail sales. Moreover, because a change in the minimum wage rate can occur at any point within the year, choosing one month could fail to capture the month in which a change in the minimum wage rate became effective.

To determine whether an employee worked at or below the general adult rate wage for each province, hourly earnings were calculated using the reported wage or salary before taxes and other deductions. If the wage or salary including tips, commissions and bonuses was reported hourly, it was used directly. Other wage rates were converted to an hourly rate using the usual weekly hours of work. In principle, tips, commissions and bonuses should have been excluded to capture only those whose true base hourly wage was at or below the provincial general adult rate, but the required information is not collected. The result is a slight downward bias in the number of paid workers working at or below the official general adult rate set by each province. However, none of the exclusions or special minimum wage rates (such as special minimum wage rates for tip earners and young workers) were used, which introduces an upward bias.

Of particular interest are the 27,000 heads of family with no spouse, working at or below minimum wage. Although they make up only a small proportion of all minimum wage workers (5%) and are no more likely to be earning minimum wage than other individuals (1 in 30 versus 1 in 25), almost all had at least one child under the age of 18 to support. Additionally, some 31,000 minimum wage workers had a spouse who was not employed. While their incidence rate is not alarming, as sole family providers (and barring income from other sources), these individuals would be hard-pressed to support more than one person. Another 28,000 minimum wage workers living alone may also have had difficulty supporting themselves.

Summary

Minimum wage legislation continues to generate heated debate among supporters and detractors alike. Although both sides agree that the needs of those at the bottom end of the wage scale should be addressed, they disagree on how it should be accomplished. To evaluate the effects of a change to the minimum wage, it is important to understand who these minimum wage workers are and the types of jobs they hold.

In 2003, some 547,000 workers worked at or below the minimum wage set by their province. Overall, more women, young people, students and part-time

Table 8: Minimum wage workers by family status

	Total employee	Minimum wage	
		Total	Incidence
	'000	'000	%
Total	13,333.2	547.0	4.1
Member of a couple	7,901.1	137.3	1.7
Spouse not employed	1,543.8	31.0	2.0
Spouse unemployed	343.1	8.7	2.5
Spouse not in the labour force	1,200.7	22.3	1.9
Less than 55	804.9	12.1	1.5
55 and over	395.8	10.2	2.6
Spouse employed	6,357.3	106.3	1.7
Earning minimum wage or less	84.2	5.6	6.7
Earning more than minimum wage	5,394.0	79.3	1.5
Self-employed	879.1	21.4	2.4
Head of family, no spouse present	824.3	27.0	3.3
Youngest child less than 18	702.3	24.3	3.5
No children, or children 18 or older	122.1	2.8	2.3
Son, daughter or other relative living with family	2,667.4	332.4	12.5
15 to 19, in school	468.7	163.4	34.9
15 to 19, not in school	339.7	84.4	24.8
20 to 24, in school	233.4	23.2	9.9
20 to 24, not in school	631.2	34.0	5.4
25 or over, in school	53.6	3.2	6.0
25 or over, not in school	940.7	24.2	2.6
Unattached individual	1,940.4	50.4	2.6
Living alone	1,314.8	28.0	2.1
15 to 24	95.1	5.3	5.6
25 to 54	1,031.0	16.4	1.6
55 and over	188.7	6.3	3.3
Living with non-relatives	625.5	22.4	3.6
15 to 24	179.2	10.8	6.0
25 to 54	421.6	10.5	2.5
55 and over	24.8	F	F

Source: Labour Force Survey, 2003

workers are minimum wage workers. They are concentrated in accommodation, food and trade industries, and in large and small firms. They are rarely unionized and tend to hold these jobs for less than a year. Most live with parents or other relatives.

Nevertheless, a sizeable proportion of minimum wage workers are in their core working years (25 to 54) and work full time. Also of interest are minimum wage workers who are the sole employed household member, particularly those responsible for a spouse, at least one child

under 18, or both. These workers in particular may find it hard to make ends meet.

Perspectives

Notes

1 This model assumes the existence of competitive markets for labour and the absence of market power in the determination of wages. That is, it presumes that both employers and workers are wage takers and that the equilibrium wage rate is determined by the equality of the cumulative demand for workers and the availability of workers with the necessary qualifications.

This argument has been challenged empirically, most notably by Card and Krueger (1994) in their case study of the fast food industry in New Jersey and Pennsylvania. That study found no evidence that the rise in New Jersey's minimum wage reduced employment at fast-food restaurants in the state. In fact, the increase in the minimum wage increased employment. Moreover, meal prices increased in New Jersey relative to Pennsylvania (where the minimum wage was constant), suggesting that much of the burden of the minimum wage increase was passed on to consumers.

2 Since December 1996, the minimum wage rate applicable to workers under federal jurisdiction has been the general adult minimum wage rate of the province or territory where the work is performed.

3 Several provinces have scheduled increases to their minimum wage rates for 2004, and some have planned increases even further into the future. Prince Edward Island has scheduled increases to \$6.50, effective January 1, 2004 and \$6.80, January 1, 2005; Nova Scotia, \$6.50, April 1, 2004; New Brunswick, \$6.20, January 1, 2004; Manitoba, \$7.00, April 1, 2004; Quebec, \$7.45, May 1, 2004; \$7.60, May 1, 2005; and Ontario, \$7.15, February 1, 2004; \$7.45, February 1, 2005; \$7.75, February 1, 2006; and \$8.00, February 1, 2007. (Ontario's minimum wage had remained unchanged since 1995.)

4 Ontario has a special minimum wage rate of \$6.40 for students under 18 working up to 28 hours a week or during a school holiday. In 2003, there were approximately 50,000 such students whose hourly earnings fell below the general adult rate but were above or equal to the student minimum wage rate.

5 None of the other exclusions or special rates were used in the estimation of minimum wage workers in this paper. See *Data source and definitions* for a more complete discussion.

6 Another factor is the minimum wage differential for special categories of workers such as students and tip earners and other exceptions, which also differ across provinces. For example, Ontario's minimum wage legislation specifies a special minimum wage rate of \$6.40 for students under the age of 18 working up to 28 hours a week or during a school holiday. Removing these individuals would result in a provincial rate of 2.5% versus 3.5% using the general adult rate.

7 The student estimate is based on an eight-month average (January to April and September to December, 2003).

8 The estimate for students with summer jobs is based on an average of the summer months (May to August, 2003) and refers to students working in the summer but planning to return to school full time in the fall.

9 Prior to 1980, this deduction was available only to owners of incorporated businesses. Several conditions must be met: The spouse must actually be paid a wage or salary; the work done must be necessary to produce income; if the spouse were not employed, the work would have to be performed by hired help; and the wages paid must be reasonable.

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Permanent layoff rates

René Morissette

In 1996, the *New York Times* published a series of articles, "Downsizing of America," arguing that more intense competition and computer-based technological changes were inducing many companies to reduce costs and lay off workers, even ones with considerable seniority. Not surprisingly then, a recent study using the 1977 to 1996 U.S. General Social Survey showed that during the 1990s, U.S. workers were more pessimistic than their counterparts in the 1980s about losing their jobs (Schmidt 1999).

Since the mid-1990s, media reports of mass layoffs in large, often profitable companies have been common. Presumably, globalization has opened new market opportunities for some firms while confronting others with greater competition from abroad. In this context, many Canadians may ask whether they now face a greater chance than two decades ago of losing their job.

Layoffs cause general uncertainty. For example, families with unstable earnings may need to change their consumption and savings patterns. Workers who cannot transfer their defined-benefit pension plans to other plans may find their retirement income affected. And displaced workers often require retraining.

Job security can be viewed as a function of two components: the risk of layoff and the costs associated with layoff, measured by the earnings loss of displaced workers (OECD 1997). This article focuses on the first component, using the Longitudinal Worker file (LWF) to determine if permanent layoff rates rose between the 1980s and the 1990s (see *Data source and concepts*). But what were the chances of finding a new job in the event of a layoff? This issue is looked at by examining hiring rates and permanent quit rates during the same period.

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Data source and concepts

The Longitudinal Worker File (LWF) is a 10% random sample of all workers constructed from four sources: the Record of Employment (ROE) from Human Resources Development Canada (worker separations), the T1 (individual tax returns) and T4 (reported wages and salaries) from the Canada Customs and Revenue Agency, and the Longitudinal Employment Analysis Program (longitudinal company data) from Statistics Canada.

The Employment Insurance Act requires every employer to issue an ROE when an employee working in insurable employment has an interruption in earnings. The ROE determines qualification for Employment Insurance (EI) benefits, the benefit rate, and the duration of a claim. An ROE must be issued even if the employee does not intend to file a claim for EI benefits.¹ Because the ROE indicates the reason for the work interruption or separation, it can be used to count separations from firms by reason.

All employers must register with the Canada Customs and Revenue Agency and issue an annual T4 slip to each employee. The T4 files cover virtually all Canadian workers. Thus, workers at risk of separation are known from the T4 files, and those who actually separate are known from the ROE files.

Job separations are classified into three categories: quits, layoffs and other separations. Layoffs are separations caused by shortage of work. Permanent layoffs are those where the separated worker does not return to the same employer in the same or following year.² Other separations are those resulting from a strike or lockout, a return to school, illness or injury, pregnancy or adoption, retirement, work sharing, apprentice training, dismissal, or other reasons. Permanent separation rates are permanent separations divided by total person-jobs in the year.

The hiring rate is hires divided by person-jobs. Hires are the permanent separations in a given year plus the net change in employment between that year and the next. That is, hires are determined indirectly by adding replacement demand (permanent separations) and expansion demand (the net increase in employment).

The large sample size of the LWF allows a very detailed level of analysis of job separations (for example, detailed age group, firm size, province, or industry).

Job stability and job loss

Job stability fell between 1977 and 1993, particularly for jobs with initial tenure of less than one year. However, between 1993 and 2001 the trend reversed. As a result, no long-term trend towards declining job stability was evident for any age, sex or education group over the whole period (Heisz 2002).

Over the 1978-1994 period, years that were comparable in the business cycle showed no general upward trend in permanent layoff rates. However, the probability of permanent layoffs increased among older and highly paid workers (Picot and Lin 1997).

An analysis of the incidence of job loss in the United States between 1981 and 2001 concluded that “while there was no secular increase in overall rates of job loss, there was a secular increase in the rate of job loss for the older and more educated, due largely to an increase in job loss to position/shift abolished,” rather than from a rise in plant closings, slack work or other reasons—a pattern consistent with the notion of ‘downsizing’ (Farber 2003, 13).

Job stability and job loss are two distinct concepts. Job stability implicitly incorporates both layoff rates (rates of job loss) and quit rates. Measured by average job duration or retention rates, job stability could remain unchanged if an increase in layoff rates were accompanied by a decrease in quit rates;³ for example, an increase in job-loss rates in conjunction with a decrease in hiring rates or heightened insecurity among workers might induce many to remain in their job. Thus, the absence of a long-term trend toward declining job stability is not necessarily inconsistent with an increase in permanent layoff rates.

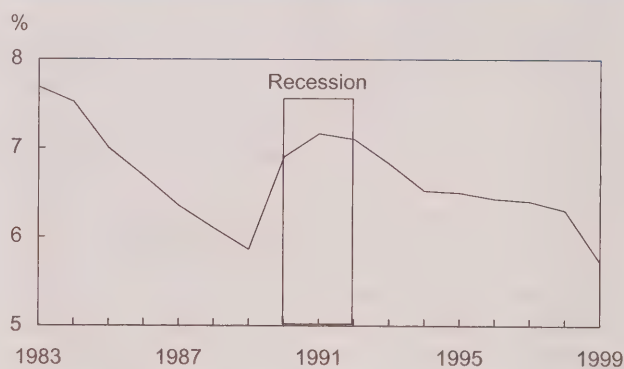
Permanent layoffs, 1983-1999

The concept of permanent layoff applies only to employees. Permanent layoffs rise in recessions and fall during expansion periods. Structural changes in permanent layoff rates can be determined by comparing years that are roughly at the same point in the business cycle. Between 1983 and 1999, the economy went through two full business cycles, which were reflected in the unemployment rate of men aged 25 to 54. The rates in 1989 and 1999 were very similar (6.3% and 6.5% respectively). Furthermore, the overall unemployment rate in 1999 was 7.6%, very close to the 7.5% in 1989. The question then is whether permanent layoff rates were higher in 1999 than in 1989.

To ensure a consistent time series of permanent layoff rates, both the jobs for which employers issue a T4 slip and the jobs for which they are required to issue an ROE must be fairly consistent. However, both changed slightly during the 1983-1999 period. But, selecting jobs with an annual wage of at least \$500 in 1989 dollars (\$621 in 1999 dollars) allows permanent layoffs to be measured on a consistent basis.⁴ Following the 1981-82 recession, permanent layoff rates fell, reaching a low of 5.9% in 1989 (Chart A). They rose again with the 1990-92 recession but ended the 1990s at 5.7%.

Even with higher cutoffs (from \$1,000 to \$5,000 in 1989 dollars), permanent layoff rates displayed no upward trend—although the values of the permanent layoff rates fall as higher cutoffs are used.

Chart A: Permanent layoff rates* fall during expansions and rise in recessions.



Source: Longitudinal Worker File

* Jobs paying at least \$500 in 1989 dollars.

Like permanent layoff rates, temporary layoff rates were very similar in 1989 and 1999 (Table 1). However, hiring rates were generally lower during the second half of the 1990s than during the second half of the 1980s. And, permanent quit rates were only 7.3% in 1999, almost 2 percentage points lower than in 1989.

Permanent layoff rates were higher in 1999 than in 1989 by half a percentage point or more for men 55 to 64 and women 35 to 44 (Table 2). No other age-sex group showed a sizeable increase.

Compared with 1989, permanent layoff rates in 1999 were generally higher by half a percentage point or more in business services and distributive services.

Table 1: Separation and hiring rates*

	Permanent separations				Hiring rates	Temporary lay-off rates
	Total	Layoffs	Quits	Other		
	%					
1983	19.5	7.7	5.4	6.5	...	9.6
1985	21.3	7.0	7.0	7.3	24.6	8.5
1987	22.4	6.4	8.7	7.3	25.3	7.8
1989	22.3	5.9	9.2	7.2	25.0	7.3
1991	20.2	7.2	5.8	7.1	17.7	9.5
1993	18.4	6.8	4.8	6.8	18.0	9.3
1995	18.6	6.5	5.4	6.8	19.1	9.0
1997	18.6	6.4	6.2	6.0	23.3	8.5
1999	19.1	5.7	7.3	6.0	21.8	7.8

Source: Longitudinal Worker File

* Jobs paying at least \$500 in 1989 dollars.

However, rates did not increase in either manufacturing or primary industries/construction. These patterns were observed for both men and women.

In large private-sector firms (500 or more employees), permanent layoff rates rose between 1989 and 1999—from 3.3% to 4.0% for men and from 1.9% to 2.5% for women. In contrast, in firms with fewer than 20 employees—whose rates were at least three times higher than those in large firms (except in 1999)—rates showed no increase during the period.

While permanent layoff rates of highly paid men (\$50,000 or more in the year prior to the layoff) did not rise, the raw data show some evidence of rising layoff rates among highly paid women.

The only sizeable increases in job loss took place in Newfoundland and Labrador, and Prince Edward Island; these provinces saw their permanent layoff rates rise by about 2 percentage points between 1989 and 1999.⁵ Nova Scotia experienced a slight increase, while the remaining provinces were unchanged or had slight declines. Hence, for most workers and most provinces, permanent layoff rates were no higher at the end of the 1990s than at the end of the 1980s.

Multivariate analysis

To assess whether the patterns hold for workers of similar ages holding comparable jobs, logit models were run to estimate the probability of being laid off in a given year (Table 3). Separate regressions were

run for 10 age-sex groups. The dependent variable equals 1 when a job ends with a permanent layoff, 0 otherwise.

For each group, two models were defined. The first used the regressors age, age squared, province, and a vector of year effects covering the 1983-1999 period (1989 being omitted). The second model added controls for industry (six categories) and firm size (four categories).⁶

Model 1 showed that between 1989 and 1999, the probability of being permanently laid off increased significantly (at the 5% level) for men aged 35 to 44 and 55 to 64. However, the increases were modest—0.3 and 0.6 percentage points respectively.⁷ Women 25 to 34 and 35 to 44 also experienced increases—0.3 and 0.5 points respectively. Although moderate in absolute terms, the increase for women 35 to 44 is not negligible in relative terms, amounting to 16% (since their permanent layoff rate was just 3.2% in 1989). In contrast, men 15 to 24 saw their risk of job loss fall by 1 percentage point. Hence, only men 55 to 64 and women 35 to 44 experienced increases of half a percentage point or more between 1989 and 1999.

Since layoff rates vary across industries and are higher in small firms than in larger ones, changes in the distribution of employment by industry and firm size may affect the risk of job loss experienced by Canadian workers. The extent to which this occurred is assessed in model 2.

Changes in the distribution of employment by industry and firm size accounted for only a small portion of the increased risk of job loss experienced by men aged 55 to 64 and women 35 to 44. Most of the increase in job loss observed for these two groups remained when controls for industry and firm size were added in model 2. A similar conclusion holds for women 25 to 34.

In contrast, compositional effects accounted for all the increased risk of job loss faced by men 35 to 44. Their probability of being permanently laid off no longer increased after controlling for industry and firm size.

The risk of job loss rose by about 0.5 percentage points for workers—both men and women—aged 45 to 54, after controlling for industry and firm size. The lack of increase in the likelihood of job loss in model 1 suggests that changes in the distribution of employment by industry and firm size, which occurred between 1989 and 1999, tended to *decrease* layoff rates of these workers.

Table 2: Permanent layoff rates* by various characteristics

	1983	1985	1987	1989	1991	1993	1995	1997	1999
	%								
Total	7.7	7.0	6.4	5.9	7.2	6.8	6.5	6.4	5.7
Men	9.7	8.8	8.1	7.7	9.4	8.8	8.5	8.1	7.5
15 to 24	11.8	10.4	9.2	8.3	10.2	9.5	9.2	8.4	7.6
25 to 34	10.5	9.4	8.7	8.1	10.5	9.8	9.1	8.7	7.8
35 to 44	8.3	7.6	7.3	7.1	8.7	8.3	8.0	7.9	7.3
45 to 54	7.7	7.4	6.8	6.7	7.9	7.6	7.4	7.4	7.0
55 to 64	7.1	7.2	6.9	7.4	8.5	8.1	8.4	8.3	8.1
Women	5.0	4.6	4.2	3.8	4.6	4.5	4.2	4.5	3.9
15 to 24	6.3	5.8	4.9	4.3	5.2	5.2	5.1	5.1	4.3
25 to 34	5.0	4.6	4.4	4.0	5.0	4.9	4.5	5.0	4.2
35 to 44	3.9	3.9	3.5	3.2	4.2	4.0	3.8	4.3	3.7
45 to 54	3.9	3.6	3.3	3.1	3.9	3.7	3.3	3.7	3.3
55 to 64	3.9	3.6	3.5	3.5	4.3	4.5	3.8	4.3	3.6
Province									
Newfoundland and Labrador	16.1	17.2	16.9	15.8	17.0	17.2	14.0	14.8	18.0
Prince Edward Island	12.2	12.4	11.8	12.2	12.7	12.0	12.3	14.9	14.3
Nova Scotia	8.7	9.1	8.4	8.2	8.7	8.7	8.9	8.4	8.7
New Brunswick	12.0	11.8	11.7	11.4	11.9	12.4	11.8	11.8	11.2
Quebec	8.5	8.3	7.6	7.3	8.3	7.7	7.5	8.0	6.5
Ontario	5.6	4.8	4.1	3.9	5.5	4.9	4.6	4.7	3.9
Manitoba	5.4	5.1	5.0	4.4	5.2	5.3	4.7	4.5	4.4
Saskatchewan	6.6	6.1	6.6	5.7	6.5	6.3	5.8	5.5	5.5
Alberta	9.9	7.5	7.2	6.1	7.1	7.3	6.9	5.6	5.9
British Columbia	9.4	9.1	8.2	7.2	8.3	7.8	7.7	7.4	6.7
Industry									
Primary and construction	23.6	22.1	21.1	20.5	23.8	23.1	22.5	20.7	20.0
Manufacturing	7.4	6.7	5.7	5.9	8.0	6.9	6.6	6.1	5.4
Distributive services	5.5	5.3	5.2	4.2	6.0	5.8	5.2	5.3	4.8
Business services	6.1	5.5	4.6	4.2	5.9	5.6	5.5	5.4	5.1
Consumer services	7.5	6.4	5.4	4.4	5.9	5.8	5.5	5.2	4.7
Public services	2.5	2.6	2.4	2.0	2.3	2.6	2.2	3.3	2.3
Firm size									
1 to 19 employees	13.7	12.6	11.4	10.2	12.0	12.0	11.3	10.6	9.6
20 to 99	9.9	9.0	7.9	7.6	9.5	8.6	8.6	8.0	7.3
100 to 499	7.3	6.2	5.8	6.0	7.5	6.0	6.0	6.2	5.3
500 or more	3.4	3.0	2.7	2.4	3.0	2.9	2.6	3.1	2.7
Firm size – private sector									
Men 15 to 64									
1 to 19 employees	17.7	16.3	14.9	13.4	16.3	16.1	15.0	14.1	12.8
20 to 99	13.1	11.9	10.5	10.2	12.8	11.4	11.6	10.2	9.5
100 to 499	10.9	9.2	8.4	9.1	11.5	8.8	8.7	8.5	7.6
500 or more	5.0	4.0	3.6	3.3	4.6	4.1	3.9	3.9	4.0
Women 15 to 64									
1 to 19 employees	9.9	9.4	8.4	7.5	8.9	8.7	8.3	7.9	7.3
20 to 99	6.9	5.8	5.0	4.9	6.5	6.1	5.6	5.6	5.1
100 to 499	5.4	4.3	3.9	3.9	5.3	4.7	4.4	4.3	3.8
500 or more	2.9	2.6	2.3	1.9	2.7	2.5	2.3	2.5	2.5
Earnings**									
Less than \$20,000	10.5	10.0	8.9	7.9	9.4	9.9	9.3	8.8	7.6
\$20,000 to \$50,000	5.3	4.3	4.1	4.3	5.6	4.5	4.4	4.7	4.4
\$50,000 or more	4.1	1.9	1.9	2.4	3.5	2.1	1.7	2.2	2.2

Source: Longitudinal Worker File

* Jobs paying at least \$500 in 1989 dollars.

** Total earnings (in 1999 dollars) in the year prior to layoff.

Table 3: Logit models of permanent layoffs by age and sex

	Permanent layoff rate in 1989	Change in risk of layoff 1989-1999**	
		Model 1	Model 2
	%	% point	
Men			
15 to 24	8.3	-1.0	-0.5
25 to 34	8.1	-0.3	0.0*
35 to 44	7.1	0.3	0.0*
45 to 54	6.7	0.2*	0.4
55 to 64	7.4	0.6	0.4
Women			
15 to 24	4.3	-0.1	0.0*
25 to 34	4.0	0.3	0.3
35 to 44	3.2	0.5	0.5
45 to 54	3.1	0.1*	0.5
55 to 64	3.5	0.0*	0.2*

Source: Longitudinal Worker File

* Coefficient for the year 1999 not statistically significant at the 5% level (two-tailed test).

** How much did the probability of being permanently laid off change between 1989 and 1999?

Note: For each group, marginal effects for the year 1999 are evaluated at a probability equal to the average permanent layoff rate of 1989. Model 1 controls for age, age squared, province and a vector of year effects. Model 2 adds industry (6 categories) and firm size (4 categories).

Taken together, the descriptive evidence and the statistical models provide little evidence that chances of job loss increased substantially between the 1980s and the 1990s.

Only men aged 55 to 64 and women 35 to 44 saw their risk of job loss increase by half a percentage point or more between 1989 and 1999. However, some segments of the economy may have experienced greater risk than others.

Three questions arise. First, were men and women of a given age and employed in a given industry more likely to be permanently laid off in 1999 than in 1989? Some industries did indeed experience growing risks of job loss (Table 4). While the risk generally decreased in goods-producing industries and changed very little in consumer services, it rose by at least half a percentage point in distributive services, business services and public services.⁸

Second, did firm size affect these rates? Large firms in the private sector laid off workers at a greater rate in 1999 than in 1989. The risk of permanent layoff in these firms rose by 0.7 percentage points for men and 0.6 points for women. This is not negligible since it represents an increase of at least 20% in relative terms

(the permanent layoff rate in large firms in 1989 was 3.3% for men and 1.9% for women).⁹ In 1999, large firms accounted for one-third of private-sector employment.¹⁰

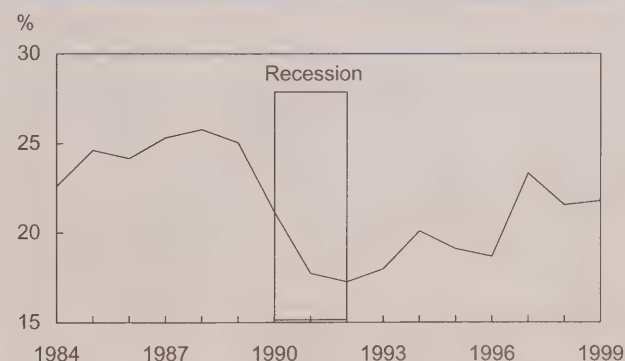
Third, did highly paid workers see their chances of being laid off rise? Highly paid women in the private sector experienced an increase of at least half a percentage point in their risk of layoff. Since their permanent layoff rate in 1989 was only 1%, their chances of being laid off remained fairly low by the end of the 1990s. No evidence of increased chances was found for highly paid men.

Hence, while permanent layoff rates did not rise substantially between the 1980s and the 1990s, workers in some sectors did experience growing chances of losing their jobs.

Hiring rates, permanent quit rates and job stability

In the first half of the 1990s, hiring rates were relatively low compared with after the 1981-82 recession (Chart B). Between 1995 and 1999, rates averaged 21%, much lower than the 25% during the 1985-1989 period.

In most provinces, hiring rates were substantially lower in the second half of the 1990s than in the second half of the 1980s. For instance, in Ontario they were about 21% in 1997, fully 4 percentage points below 1987. Rates in British Columbia were 20% in 1999, almost 10 points lower than in 1989. This suggests that while

Chart B: Hiring rates* were lower in the 1990s than in the 1980s.

Source: Longitudinal Worker File

* Jobs paying at least \$500 in 1989 dollars.

Table 4: Logit models of permanent layoffs by industry, firm size and earnings

	Men		Women	
	Permanent layoff rate in 1989	Change in risk of layoff 1989-1999**	Permanent layoff rate in 1989	Change in risk of layoff 1989-1999**
	%	% point	%	% point
Industry				
Primary and construction	22.2	-0.4	12.7	-1.0*
Manufacturing	6.1	-0.3	5.7	-0.3
Distributive services	4.4	0.9	3.8	0.5
Business services	5.6	0.7	3.2	1.1
Consumer services	5.0	0.3	4.0	0.1
Public services	2.3	0.8	1.8	0.7
Firm size – private sector				
1 to 19 employees	13.4	-1.2	7.5	-0.4
20 to 99 employees	10.2	-1.1	4.9	0.1*
100 to 499 employees	9.1	-1.7	3.9	-0.1*
500 or more employees	3.3	0.7	1.9	0.6
Highly paid workers†				
All industries	2.7	0.1*	0.4	0.3
Private sector	3.6	0.1*	0.9	0.7

Source: Longitudinal Worker File

* Coefficient for the year 1999 not statistically significant at the 5% level (two-tailed test).

** How much did the probability of being permanently laid off change between 1989 and 1999?

† Workers with total earnings of \$50,000 or more (in 1999 dollars) in the preceding year.

Note: Industry-specific logit models and firm size-specific logit models use the explanatory variables age, age squared, province, and year effects. Logit models for highly paid workers use age, age squared, industry, firm size, province, and a vector of year effects. All models are run separately for men and women. The private sector refers to all industries except public services.

the 1990s than in the 1980s. Indeed, between 1989 and 1999, permanent quit rates in Canada fell from 9.2% to 7.3% (Table 6). Decreases were observed for all age groups, all major industry groups, all size classes, and all provinces except Prince Edward Island and New Brunswick. In absolute terms, permanent quit rates fell most in Ontario and British Columbia, 3.1 and 2.5 percentage points respectively. In relative terms, they fell by at least 25% in these two provinces as well as in Newfoundland and Labrador.

The drop in quit rates was not simply caused by the aging of the workforce. For all age groups, logit models of permanent quits still showed a substantial decrease in the probability of quitting even after controlling for age, age squared, and province of work. Between 1989 and 1999, the probability of quitting fell between 0.7 and 2.2 percentage points for women and between 0.4 and 1.9 points for men (Table 7). For most

chances of being permanently laid off did not rise substantially between the 1980s and the 1990s, chances of finding a new job in the event of a layoff were considerably lower (Table 5).

In the private sector, hiring rates fell much more in small firms than in large firms. In firms with less than 20 employees, average hiring rates fell 23% between the 1985-1989 period and the 1995-1999 period (Chart C). In contrast, they fell only 4% in large firms.

The drop in hiring rates was not uniform across age groups. Workers aged 25 to 34 (both men and women) saw their average hiring rates fall by at least 15% between the 1985-1989 and 1995-1999 periods (Chart D). In contrast, men aged 45 to 54 experienced a 10% increase.

If labour market opportunities, measured by hiring rates, were lower in the 1990s, one might expect that employees quit their jobs less frequently in

Chart C: In the private sector, hiring rates* fell more in smaller firms.

Source: Longitudinal Worker File

* Jobs paying at least \$500 in 1989 dollars.

Table 5: Hiring rates* by province

	Nfld. Lab.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.
	%									
1985	35.8	30.3	25.3	26.6	23.6	23.7	21.4	23.1	29.8	24.6
1987	35.2	30.8	25.2	28.0	24.5	25.3	21.8	20.8	27.0	26.5
1989	32.6	28.2	25.3	28.0	24.7	23.4	20.7	22.0	27.7	29.7
1991	30.0	24.4	18.8	21.8	17.8	14.1	15.3	19.0	21.7	23.2
1993	30.1	22.0	19.6	22.7	17.9	14.5	16.0	17.7	23.0	22.1
1995	25.0	27.7	20.6	23.4	18.9	16.8	17.9	19.4	22.8	21.1
1997	28.8	27.7	24.0	23.8	22.3	21.1	22.0	23.8	31.5	23.8
1999	25.2	25.5	22.6	26.2	23.2	21.0	19.7	19.7	24.6	20.4
1985-1989	34.6	30.0	25.5	27.3	24.2	24.2	21.3	22.1	27.6	27.3
1995-1999	26.0	26.1	21.7	24.0	21.1	18.9	19.8	20.4	25.7	21.2
% change	-24.9	-13.1	-15.0	-12.1	-12.7	-21.8	-7.1	-7.7	-6.7	-22.2

Source: Longitudinal Worker File

* Jobs paying at least \$500 in 1989 dollars.

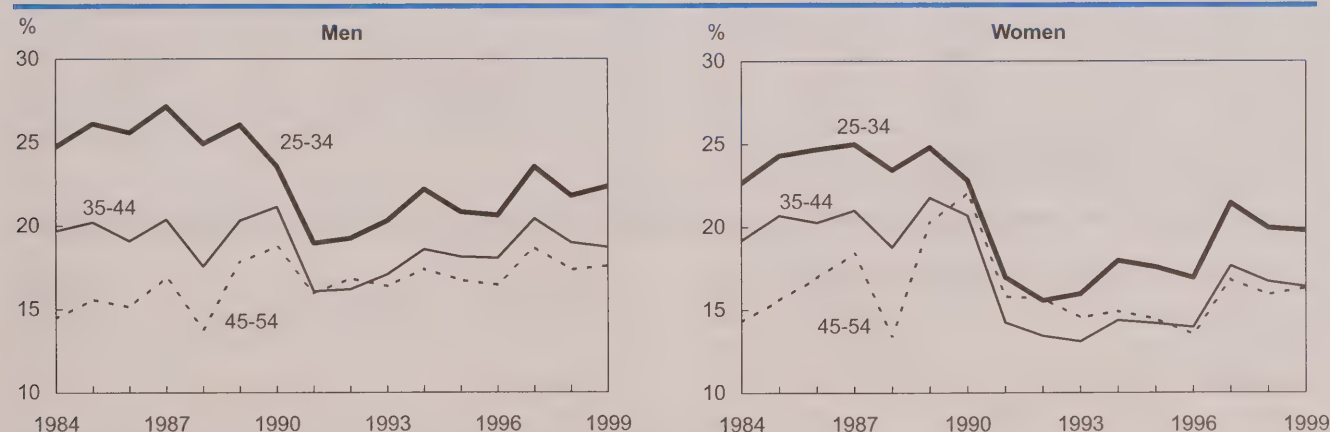
age groups, adding controls for industry and firm size did not attenuate these decreases. In fact, the probability of quitting fell between 16% and 21%—in relative terms—for workers aged 35 to 54 when these controls were added.¹¹

Since people with greater seniority tend to quit less—likely reflecting a good match between job requirements and employee skills—one might argue that the decrease in quit rates was simply due to growing levels of seniority within age groups. This argument does

not hold for men. In 1999, their average levels of seniority were, in all age groups, no higher than in 1989 (Table 8). In contrast, women aged 35 and over had more seniority in 1999 than in 1989. Thus, part of the decrease in quit rates of women could be due to increased seniority.

For men aged 45 to 54, the fall in quit rates coupled with increased hiring rates suggests that other factors may have contributed to decreasing quit rates. For instance, legislative changes in Employment Insurance

Chart D: Hiring rates* varied considerably by age and sex.



Source: Longitudinal Worker File

* Jobs paying at least \$500 in 1989 dollars.

Table 6: Permanent quit rates* by various characteristics

	1983	1985	1987	1989	1991	1993	1995	1997	1999
	%								
Total	5.4	7.0	8.7	9.2	5.8	4.8	5.4	6.2	7.3
Men	4.8	6.5	8.3	8.9	5.4	4.6	5.3	6.3	7.2
15 to 24	7.5	10.4	13.3	13.9	9.3	8.1	9.1	10.4	12.3
25 to 34	5.4	7.4	9.4	9.8	6.4	5.7	6.7	8.2	9.3
35 to 44	3.5	4.5	5.6	5.9	3.7	3.3	3.9	4.8	5.5
45 to 54	2.3	2.9	3.7	3.8	2.4	2.0	2.4	2.8	3.3
55 to 64	1.4	1.8	2.4	2.7	1.6	1.3	1.6	2.1	2.2
Women	6.3	7.8	9.3	9.6	6.4	5.1	5.5	6.2	7.4
15 to 24	9.1	11.8	14.2	14.6	10.9	9.3	10.2	10.6	12.8
25 to 34	6.6	8.2	9.9	9.8	7.1	5.8	6.5	7.7	9.0
35 to 44	4.5	5.3	6.5	6.6	4.5	3.5	3.8	4.5	5.5
45 to 54	3.2	4.0	4.8	4.7	3.3	2.5	2.5	3.0	3.5
55 to 64	2.7	3.1	3.6	3.7	2.6	1.9	1.8	2.2	2.4
Province									
Newfoundland and Labrador	2.8	2.9	3.9	4.4	2.7	2.0	2.2	2.6	3.3
Prince Edward Island	3.1	3.3	3.8	4.4	2.9	2.2	2.6	3.4	4.5
Nova Scotia	3.9	4.9	5.8	6.3	4.0	3.3	3.6	3.9	5.7
New Brunswick	3.5	4.0	5.2	5.6	4.0	3.1	3.6	4.1	5.7
Quebec	4.1	5.7	7.5	7.7	4.9	4.0	4.7	5.3	6.8
Ontario	5.6	7.9	10.2	10.4	5.6	4.4	5.2	5.8	7.3
Manitoba	5.7	7.0	8.1	8.1	5.7	4.9	5.9	7.0	7.8
Saskatchewan	6.9	7.6	7.9	8.1	6.3	5.1	6.1	7.7	7.2
Alberta	8.2	10.0	10.4	11.4	8.9	7.5	8.0	10.5	10.2
British Columbia	5.4	5.9	7.5	9.2	7.3	6.3	6.3	6.4	6.7
Industry									
Primary and construction	5.0	6.1	7.7	7.9	4.2	3.5	3.9	5.2	5.4
Manufacturing	4.9	7.0	9.5	10.0	5.1	4.2	5.2	5.9	7.3
Distributive services	4.2	5.9	7.5	8.4	5.0	4.3	5.0	6.4	7.4
Business services	6.8	8.4	9.8	10.1	6.6	5.4	5.8	6.8	7.6
Consumer services	8.7	10.9	13.2	13.9	10.1	8.5	9.3	10.0	11.8
Public services	2.5	3.1	3.5	3.5	2.4	1.8	1.8	2.2	2.4
Firm size									
1 to 19 employees	6.0	7.5	8.8	8.7	5.8	4.8	5.4	5.9	6.7
20 to 99	7.7	10.0	12.2	12.8	8.3	7.0	7.8	8.7	10.1
100 to 499	6.6	9.0	11.1	11.7	7.4	6.0	6.7	7.7	9.1
500 or more	3.7	4.9	6.3	6.9	4.3	3.4	3.9	4.8	5.6
Earnings**									
Less than \$20,000	7.3	9.5	11.6	12.0	8.3	6.9	7.6	8.4	9.9
\$20,000 to \$50,000	3.9	5.0	6.3	7.0	4.0	3.1	3.6	4.5	5.2
\$50,000 or more	2.2	2.4	3.0	3.5	2.2	1.7	2.0	2.7	3.0

Source: Longitudinal Worker File

* Jobs paying at least \$500 in 1989 dollars.

** Total earnings (in 1999 dollars) in the year prior to layoff.

in 1993, eliminating the EI eligibility of workers quitting without just cause, reduced the propensity to quit among young workers (those 15 to 24) and women aged 25 to 54 (Kuhn and Sweetman 1998).¹²

Hence, while permanent layoff rates showed no substantial increase between the 1980s and the 1990s, permanent quit rates fell markedly. Since other permanent separations fell moderately, permanent separa-

rations taken as a whole (permanent layoffs, permanent quits and other permanent separations) fell in the 1990s. This explains why job stability, measured by average complete job duration, rose in the 1990s.¹³

This increase in job stability is not necessarily a positive development if the decrease in permanent quit rates results partly from a decrease in hiring rates—that is, from lessened labour market opportunities. An

Table 7: Logit models of permanent quits

		Change in chances of quitting 1989-1999*	
	Permanent quit rate in 1989	Model 1	Model 2
	%	% point	
Men			
15 to 24	13.9	-1.9	-2.5
25 to 34	9.8	-0.4	-0.9
35 to 44	5.9	-0.5	-0.9
45 to 54	3.8	-0.5	-0.7
55 to 64	2.7	-0.6	-0.7
Women			
15 to 24	14.6	-2.2	-2.9
25 to 34	9.8	-0.7	-1.0
35 to 44	6.6	-1.1	-1.4
45 to 54	4.7	-1.2	-1.0
55 to 64	3.7	-1.3	-1.2

Source: Longitudinal Worker File

* How much did the probability of permanently quitting change between 1989 and 1999?

Note: For each group, marginal effects for 1999 are evaluated at a probability equal to the average permanent quit rate of 1989. Model 1 controls for age, age squared, province, and a vector of year effects. Model 2 adds industry (6 categories) and firm size (4 categories). For all age-sex groups, the coefficient for the year 1999 is statistically significant at the 0.01% level (two-tailed test).

increase in job stability resulting from falling labour market opportunities has quite different implications for workers' well-being than one resulting from a growing supply of permanent well-paid jobs.

Conclusion

Both descriptive evidence and statistical models provide little evidence of a substantial rise in permanent layoff rates between the 1980s and the 1990s. While the risk of job loss increased in a non-negligible way in some industries and in large private-sector firms, men and women of different age groups generally did not experience drastic increases in their likelihood of being permanently laid off. Only men aged 55 to 64 and women 35 to 44 saw their chances of being permanently laid off rise by half a percentage point or more.

These averages reflect aggregate patterns for the economy and do not necessarily apply to all sectors of the labour market. For instance, two provinces, Newfoundland and Labrador and Prince Edward Island, experienced substantial increases in layoff rates

Table 8: Average months of seniority

	All employees		Employees who are not full-time students	
	1989	1999	1989	1999
	%			
Men				
15 to 24	17.4	17.5	19.6	18.8
25 to 34	53.0	49.4	53.3	49.8
35 to 44	113.7	102.8	113.8	103.0
45 to 54	169.3	168.4	169.5	168.4
55 to 64	188.2	175.3	188.2	175.3
Women				
15 to 24	16.1	16.0	18.3	17.6
25 to 34	49.2	48.2	49.6	48.7
35 to 44	84.1	93.8	84.2	94.1
45 to 54	107.8	135.6	108.0	135.6
55 to 64	143.1	149.0	143.1	149.0

Source: Labour Force Survey, September

between 1989 and 1999. Furthermore, there is little evidence that permanent layoff rates decreased despite increases in educational attainment between the 1980s and the 1990s. The lower chances of being permanently laid off among highly educated workers (Galarneau and Stratychuk 2001) suggests that permanent layoff rates of some groups—for example, workers with no high school diploma—may well have risen during this period.

Most striking is the widespread drop in permanent quit rates observed during the period. It seems reasonable to argue that part of the decrease in quit rates was due to the decrease in hiring rates in the 1990s. While chances of losing one's job did not rise substantially over the 1980s and 1990s, chances of finding a new job in the event of a layoff fell markedly.

Perspectives

Notes

- 1 Non-compliance penalties may apply to employers who fail to issue an ROE.
- 2 The Longitudinal Employment Analysis Program file is used to distinguish permanent separations from temporary separations. The T1 files provide age and sex.
- 3 Retention rate refers to the conditional probability that a job of any given length will last another year.

- 4 See Morissette (2004) for details.
- 5 In both provinces, the increase in permanent layoff rates is statistically significant at the 1% level (two-tailed test).
- 6 Interaction terms between covariates and year effects were excluded in order to capture any increase in the probability of being laid off by intercept shifts, thereby measuring an 'average' increase in probability across years. The number of observations used in these logit models varied between 711,562 for women aged 55 to 64 and 4,323,671 for men aged 25 to 34.
- 7 The increase of 0.2 percentage points observed among men aged 45 to 54 is statistically significant at the 6% level (two-tailed test).
- 8 The careful reader may wonder why the risk of permanent layoff in public services rose by 0.7 to 0.8 percentage points for workers of a given age while permanent layoff rates rose by only 0.3 percentage points between 1989 and 1999 (Table 2). One explanation is that the average age of employees rose substantially in public services, increasing from 36.1 to 39.6, compared with 32.2 to 35.0 in the private sector (Longitudinal Worker File: 1% version). Older workers generally have relatively low layoff rates, so permanent layoff rates in public services tended to decrease. The effect was more than offset by a growing risk of layoff for workers of a given age, thereby generating the modest increase in permanent layoff rates shown in Table 2.
- 9 In contrast, men employed in firms with less than 500 employees and women employed in small firms saw their risk of permanent layoff fall between 1989 and 1999.
- 10 As calculated from the 1% version of the LWF.
- 11 It fell even more for those aged 55 to 64—men -24% and women -33%.
- 12 Kuhn and Sweetman (1998, 570) conclude that "the magnitude of the reductions is quite large for women: relative to the baseline period, the quit rate drops by 12% to 18% in the short run and roughly 30% in the long run. In striking contrast, prime age males' separation behaviour seems unaffected by the legislation."
- 13 Following Picot, Heisz and Nakamura (2001, 8), average complete job duration is computed as follows. Assuming an exponential survivor function, job duration can be estimated by $1/l$, where $l = -\ln(R)/t$, where R is the average retention

rate for workers and t , the time interval used here, is equal to 1 year. The average retention rate R is simply 1 minus the probability of permanent separation.

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Sidelined in the labour market

Vincent Dubé

While the unemployment rate is an important indicator of the state of the economy, it is only one piece of the puzzle. Another unemployment statistic, the duration of job search, is an essential indicator of economic well-being.¹ It is important to distinguish between long-term unemployment and medium- and short-term unemployment. While the latter two are associated with normal labour turnover, long-term unemployment is related to structural rigidities in the labour market.

Long-term unemployment has always garnered attention because of its high costs and pernicious nature. In most industrialized countries, a negative relationship exists between the duration of unemployment and the probability of returning to work (see *Long-term unemployment internationally*). On a personal level, long-term unemployment is associated with the loss of present and future opportunities, financial problems, social exclusion, loss of self-esteem, and health problems. In economic terms, it leads to a decrease in tax revenues, lessened productivity because of loss of acquired skills, and an increase in the costs of social and health care programs. In fact, the very efficiency of the labour market is adversely affected by high levels of long-term unemployment because of the structural adjustment costs it entails.²

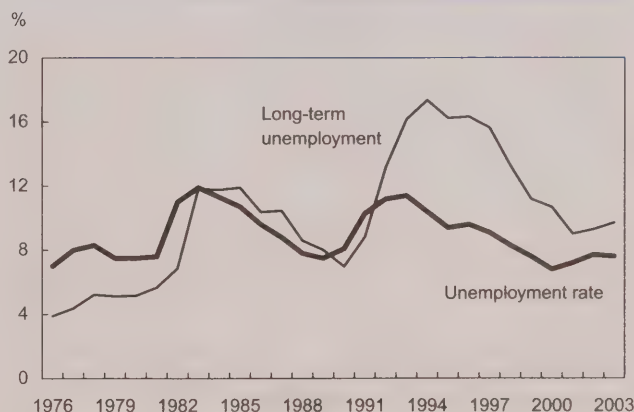
This article seeks to shed light on long-term unemployment in Canada for the period 1976 to 2003 (see *Data source and definitions*). It looks at how the incidence of long-term unemployment (the long-term unemployed as a percentage of all unemployed)³ has changed over time. Next, it identifies the most affected groups, since total time unemployed is not distributed uniformly (see *Are the long-term unemployed different?*).

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Recession and long-term unemployment

In 1976, following the end of the 1975 recession, of the 738,000 persons experiencing a spell of unemployment, 29,000 were unemployed for 12 months or more, representing a long-term unemployment incidence of 3.9%. This increased gradually until the beginning of the 1980s, accelerating with the 1981-82 recession. By 1985, nearly 165,000 persons were unemployed for a year or more, an incidence of 11.9%. As the job recovery gathered steam, the incidence gradually declined to around 7% in 1990 (81,000 persons). Following the recession of the early 1990s, it rebounded sharply, reaching a new peak of 17.3% (nearly 263,000) in 1994. Remaining high for much of the 1990s, the incidence fell substantially starting in 1998. In 2003, 9.7% of unemployed persons, or 126,000, were on long-term unemployment. Despite a fairly comparable overall unemployment rate (approximately 7.5%), the incidence of long-term

Chart: Long-term unemployment reached a peak in the mid-1990s.



Source: Labour Force Survey

unemployment in 2003 was 39% higher than in 1990, and more than double (+120%) that in 1977. The question arises whether certain cyclical factors may have raised the 'equilibrium' level of long-term unemployment—a phenomenon labour economists call the hysteresis effect.⁴

Much of the variation in long-term unemployment appears related to cyclical fluctuations in the economy (Chart). The overall unemployment rate and long-term unemployment are strongly correlated (Wong, Henson and Roy 1999), but with a lag between a rise in the unemployment rate and an increase in long-term unemployment. Similarly, long-term unemployment generally remains high for several years during economic recoveries, even though the unemployment rate rapidly adjusts downward. For example, after the recession of the early 1990s, Canada's unemployment rate peaked in 1993 (11.4%), whereas the highest incidences of long-term unemployment were observed in 1994 (17.3%) and in 1996 (16.3%). This suggests that the last workers laid off are generally the first to return to work when the economic situation improves. By contrast, persons who have been unemployed for some time, along with less skilled workers, tend to represent a larger proportion of the unemployed population.

In considering the duration of unemployment, differentiating between cyclical and structural causes is generally difficult. The model most often used by labour economists assumes that once individuals become unemployed, the duration of unemployment will depend on the probability of their receiving and accepting a job

offer. The probability of receiving a job offer is determined by factors such as education or work experience (structural aspects of the labour supply) and the economic context in which the jobseeker is operating (cyclical aspect of labour demand). Similarly, the probability of accepting the offer is determined by the expected wage, that is, the lowest wage package (including benefits and working conditions) for which the person is willing to work, which in turn depends on personal characteristics and economic conditions.

Structural causes of long-term unemployment are many and varied. These may include industrial restructurings and reorganizations that arise from trade liberalization, low labour mobility, regional disparities, and skill obsolescence resulting from technological change. Furthermore, long-term unemployment may also be influenced by organizational and institutional policy changes affecting wage flexibility. For example, cutbacks in provincial social assistance during the 1990s encouraged recipients to look for work. These jobless persons then saw themselves as unemployed rather than as not in the labour force (Bédard, Bertrand and Grignon 2001).

Some are harder hit

Although strong increases in long-term unemployment resulted from the recessions of the early 1980s and 1990s, some groups and regions were hit harder than others.

Men

For more than 20 years, unemployed men have had a considerably higher incidence of long-term

Table 1: Long-term unemployment by sex

	Labour force	LTU
	%	
1980	100.0	5.2
Men	60.1	5.4
Women	39.9	4.9
1985	100.0	11.9
Men	57.6	13.4
Women	42.4	9.8
1990	100.0	7.0
Men	55.6	7.8
Women	44.4	6.0
1994	100.0	17.3
Men	55.1	19.1
Women	44.9	15.1
2001	100.0	9.0
Men	54.0	10.0
Women	46.0	7.7
2003	100.0	9.7
Men	53.6	11.0
Women	46.4	8.0

Source: Labour Force Survey
Shaded years indicate peaks in long-term unemployment; unshaded years indicate troughs.

unemployment than women (Table 1). This gap has continued despite the growing presence of women in the labour force. In 2003, the incidence of long-term unemployment for men was 11% compared with 8% for women, a gap of almost 40%.

The gap may be due in part to the greater participation of men in the labour market, but it may also be due to differences in industry and the type of work. For example, labour turnover is greater for women than for men (Blau, Ferber and Winkler 2002), and women are more heavily represented in services and in part-time work, both characterized by higher turnover.

Long-term unemployment internationally

The incidence of long-term unemployment varies considerably from one country to another. The incidence is generally much lower in North America than in most industrialized countries. Among the G-7 countries, for example, Canada ranked second in 2002, just behind the United States (8.5%). Among the 30 OECD countries, Canada ranked fifth after Mexico (first) and the United States (fourth) (OECD 2003).

By definition, the incidence of long-term unemployment is based on the time spent unemployed. The greater the labour turnover in a given country, the larger the proportion of short spells of unemployment and the lower the incidence of long-term unemployment. Since North American labour turnover rates are among the highest in the world, it is not surprising that incidences are among the lowest. However, a low incidence can also mask another, almost identical phenomenon: Longer episodes of unemployment may be replaced by a greater number of shorter episodes. When all the unemployment spells experienced by one person over the

course of a given year are added up, the total duration of unemployment may be similar to that of a person on long-term unemployment.

In addition, the large gaps in incidence between countries may be due, in part, to differences in economic cycles. However, a higher incidence does not result solely from an increase in overall unemployment caused by difficult economic conditions. This is especially apparent when Canada's unemployment rate (7.7%) is compared with that of the United Kingdom (5.1%) in 2002. Thus, the differences observed from one country to another are longstanding and do not appear to be due to either disparities or changes in unemployment rates (OECD 1987). On the other hand, differences in institutional policies affect the observed disparities. Some aspects of national employment insurance programs or the presence of specific measures to combat long-term unemployment (for example, the use of wage subsidies) are most often cited in this regard.

	1980		1990		2000		2002	
	LTU	Unemployment rate*	LTU	Unemployment rate*	LTU	Unemployment rate*	LTU	Unemployment rate*
	%							
Canada	3.3	7.5	7.2	8.1	11.2	6.9	9.7	7.7
United States	4.3	7.2	5.5	5.6	6.0	4.0	8.5	5.8
United Kingdom	19.2	6.1	34.4	6.9	28.0	5.4	23.1	5.1
France	32.6	6.4	38.1	8.7	42.6	9.3	33.8	8.7
Germany	17.0	3.3	46.8	4.8	51.5	7.8	47.9	8.2
Italy	37.1	7.2	69.8	8.9	61.3	10.4	59.2	9.0
Japan	16.0	2.0	19.1	2.1	25.5	4.7	30.8	5.4

Source: Organisation for Economic Co-operation and Development (OECD)

* Unemployment rates are standardized.

Note: Statistics on long-term unemployment are not perfectly comparable between countries because of differences in data sources, definitions, wording of questions, and so forth.

Older workers

Older unemployed persons (45 and over) consistently posted the highest incidence of long-term unemployment. That incidence was 17% in 2003, compared with 10% for persons 25 to 44, and 3% for those 15 to 24 (Table 2). These figures indicate a positive relationship between age and the risk of long-term unemployment—the opposite of the relationship between age and risk of being unemployed, as expressed by the unemployment rate. In other words, the probability of job loss appears to be lower among older workers, but once unemployed, they seem to have greater difficulty finding work.

Table 2: Long-term unemployment by age

	Labour force	LTU
	%	
1980	100.0	5.2
15 to 24	27.3	3.3
25 to 44	46.8	5.8
45 and over	25.9	8.9
1985	100.0	11.9
15 to 24	23.3	6.4
25 to 44	51.7	13.0
45 and over	25.0	19.9
1990	100.0	7.0
15 to 24	19.2	3.0
25 to 44	55.2	7.1
45 and over	25.5	13.2
1994	100.0	17.3
15 to 24	17.0	8.8
25 to 44	54.5	18.7
45 and over	28.4	24.3
2001	100.0	9.0
15 to 24	16.3	3.5
25 to 44	50.6	8.8
45 and over	33.1	15.9
2003	100.0	9.7
15 to 24	16.4	3.2
25 to 44	48.3	9.6
45 and over	35.3	17.0

Source: Labour Force Survey
Shaded years indicate peaks in long-term unemployment; unshaded years indicate troughs.

Data source and definitions

The monthly **Labour Force Survey** (LFS) is the source for this study. Persons unemployed at the time of the survey are asked how many weeks they have been actively looking for work.

The duration of unemployment is an uninterrupted period during which the person was unemployed. This concept does not measure time spent not working (which includes periods when the respondent was not part of the labour force). In addition, because it includes only spells of unemployment that continue up to the time of the survey, it is not a complete measure of the duration of unemployment. The duration of unemployment is a lagging indicator (or a lagging cyclical indicator).

The unemployment figures contained in this article do not include persons who were not looking for work because they had a job that was to begin at a later date. Persons not looking for work are not asked about the duration of job search.

The **labour force** is the civilian population aged 15 and over (excluding institutional residents) who, during the survey's reference week, were employed or unemployed.

The **unemployed** are persons who, during the reference week, were available for work and had been laid off temporarily, had looked for work during the past four weeks, or were to start a job during the next four weeks.

For this article, **short-term unemployment** is 26 consecutive weeks or less. Since unemployed persons whose duration of unemployment is unknown are those who were not looking for work because of a job that they were to start at a later date, it is probable that the incidence of short-term unemployment is slightly underestimated. **Medium-term unemployment** is more than 26 but less than 52 weeks. **Long-term unemployment** is 52 weeks or more.

The **incidence of long-term (short-term, medium-term)** is the proportion of unemployed persons on long-term (short-term, medium-term) unemployment in relation to all unemployed persons.

The **unemployment rate** is the number of unemployed persons in a group, expressed as a percentage of the persons in the labour force within that group.

The **duration of unemployment** is the number of consecutive weeks during which a person has been temporarily laid off, or has been without work and is looking for work.

Structural unemployment refers to the situation in which workers cannot occupy the positions available because they do not have the desired skills, do not live where the positions are offered, or are not willing to work at the market wage.

Discouraged workers are jobless persons who want to work but do not look for work because, for various reasons, they do not believe that they can find a satisfactory job. Since these individuals are not actively looking for work, they are not included among the unemployed.

The higher incidence of long-term unemployment among older persons may be explained by a number of factors, including lower mobility (related to higher relocation costs), a lower education level than among those aged 25 to 44, a lower capacity for job-hunting, and a certain amount of discrimi-

nation against them (HRDC 1997; Hutchens 1988). Also, it is generally harder to find a new position after having had the same job for a number of years and accumulated non-transferable skills. Furthermore, since they have more occupational experience and higher net worth, they may be more

selective—which lengthens their job-search period. They may also involuntarily withdraw from the labour force, often through early retirement, which amounts to hidden unemployment. Hence, long-term unemployment among older workers may be underestimated.

On the other hand, the lower incidence of long-term unemployment among younger persons may be related to their high turnover on the labour market. They may be more inclined to accept jobs that are part-time, unstable or less well-paying, or to go back to school after an unsuccessful job search. However, even though they are proportionally less affected by long-term unemployment, they may experience its consequences more acutely. For example, many have no real experience related to their training, have very few ties to the labour market, and have not accumulated the hours needed to be eligible for Employment Insurance. Moreover, since they have the lowest net worth, they would likely be more vulnerable when faced with a prolonged absence of income.

The gap in the incidence of long-term unemployment between older and younger persons has widened over the past two decades. A comparison of 1980 and 2003 shows that the incidence of long-term unemployment remained relatively stable (3%) for those aged 15 to 24 while almost doubling for those aged 45 and over, rising from 9% to 17%. The growth of the 45-and-over unemployed group in the labour force may have resulted in increased competition among jobseekers in that group. On the other hand, unemployed persons aged 45 and over in 2003 may differ from their 1980 counterparts. For example, they may have socioeconomic characteristics that enable them to be more selective about the jobs available—such as more accumulated wealth or belonging more frequently to a two-income family.

The less educated

Unemployed persons with a low level of education generally have a higher incidence of long-term unemployment than other groups (Table 3). In 2003, those with less than grade 9 had an incidence of nearly 16%, compared with 9% for those with between grade 9 and university, and 12% for those with a university degree. This is consistent with the unemployment rate, indicating that education has a positive influence on the search for work.

However, the relationship between the incidence of long-term unemployment and education is not completely linear. For example, in 2003, those in the high-

Table 3: Long-term unemployment by education

	Labour force	LTU
	%	
1980	100.0	5.2
Less than grade 9	15.4	7.6
University degree	10.7	4.5
Other	73.9	4.6
1985	100.0	11.9
Less than grade 9	11.7	17.8
University degree	13.1	11.5
Other	75.2	10.8
1990	100.0	7.0
Less than grade 9	7.9	11.8
University degree	13.8	7.3
Other	78.4	6.2
1994	100.0	17.3
Less than grade 9	6.0	24.3
University degree	16.8	18.4
Other	77.1	16.5
2001	100.0	9.0
Less than grade 9	3.6	14.2
University degree	19.5	8.3
Other	76.9	8.7
2003	100.0	9.7
Less than grade 9	3.5	15.7
University degree	20.4	12.3
Other	76.1	8.7

Source: Labour Force Survey

Shaded years indicate peaks in long-term unemployment; unshaded years indicate troughs.

est education level (university degree) had a higher incidence of long-term unemployment than those at the intermediate education level (between grade 9 and university degree). This may reflect their aversion to jobs that do not interest them. They may try harder to obtain the job (and wage) they are looking for, even if it means a longer search. The least educated face greater job instability. They would therefore be more likely to accept whatever jobs are available, even ones that are part-time, temporary or poorly paid.

Quebec and British Columbia

The incidence of long-term unemployment varies greatly by region, from 13% in British Columbia to 4% in the Prairies (Table 4). The ranking is similar to that for regional unemployment rates, except for the Atlantic region, which had the highest unemployment rate in 2003. This is not surprising, given the importance of seasonal unemployment, which is of short or medium duration.

Table 4: Long-term unemployment by region

	Labour force	LTU
		%
1980	100.0	5.2
Atlantic	7.6	6.6
Quebec	25.8	6.7
Ontario	37.7	4.4
Prairies	17.5	F
British Columbia	11.4	5.2
1985	100.0	11.9
Atlantic	7.6	10.1
Quebec	24.9	15.8
Ontario	38.1	8.0
Prairies	17.9	9.2
British Columbia	11.5	15.7
1990	100.0	7.0
Atlantic	7.6	6.9
Quebec	24.6	10.2
Ontario	38.9	4.3
Prairies	17.0	6.1
British Columbia	11.9	6.3
1994	100.0	17.3
Atlantic	7.4	14.7
Quebec	24.2	20.4
Ontario	38.1	19.5
Prairies	17.1	12.2
British Columbia	13.2	11.6
2001	100.0	9.0
Atlantic	7.2	8.7
Quebec	23.4	12.8
Ontario	39.2	7.2
Prairies	17.2	4.2
British Columbia	12.9	10.0
2003	100.0	9.7
Atlantic	7.1	7.5
Quebec	23.6	12.2
Ontario	39.3	9.0
Prairies	17.2	4.3
British Columbia	12.9	12.5

Source: Labour Force Survey

Shaded years indicate peaks in long-term unemployment;
unshaded years indicate troughs.

Quebec was hardest hit by long-term unemployment, followed by British Columbia. British Columbia came out of the recession of the early 1990s in better shape than the other regions; in 1994, it posted the lowest incidence of long-term unemployment (12%), compared with Ontario's nearly 20%.

Summary

Long-term unemployment affected less than 4% of all unemployed persons in 1976, but grew substantially during the recessions of the early 1980s and 1990s. It reached a peak in 1994, when more than one unemployed person in six (17%) was affected. Despite a significant drop since then, the incidence still stood at nearly 10% in 2003. Men, older workers, persons with less education, and those residing in Quebec and British Columbia exhibited higher rates than other groups.

Perspectives

Notes

1 Of interest in this regard is another indicator published by Statistics Canada: the average duration of unemployment. However, this indicator says nothing about how the duration of unemployment is distributed. Yet, for a given average duration of unemployment, it makes considerable difference whether all workers were unemployed for one month in a year or only one-twelfth of workers were unemployed for the entire year.

2 For a thorough review of the consequences of long-term unemployment, see OECD (1993), chapter 3.

3 The incidence of long-term unemployment is not a function of the unemployment rate of the group. For example, a group may have a high unemployment rate but a low incidence of long-term unemployment. This would indicate that while the members of this group have a strong probability of being unemployed, the probability that they will remain unemployed for a year or more is low. The long-term unemployment rate, which would be the probability of members of the group (both working and unemployed) being on long-term unemployment, is not dealt with in this article.

4 Simply put: An increase in unemployment generally has the effect of increasing the proportion of persons on long-term unemployment. As these persons remain unemployed, they gradually become sidelined in the labour market. They then have a diminishing influence on the wage-setting process. As a result, wages remain high. All else being equal, this situation represents an impediment to job creation and thereby contributes to a further worsening of the overall unemployment situation.

Are the long-term unemployed different?

Nearly four unemployed persons in five (79.1%) were short-term unemployed in 2003. A high number of temporary layoffs and a high level of seasonal unemployment in some sectors were probably major factors. Because of its magnitude, short-term unemployment has characteristics that most closely resemble those of overall unemployment: a higher incidence among women (80.5%), younger workers (89.2%), persons whose education level lies between grade 9 and a university degree (80.7%), and residents of the Prairies (85.1%).

Medium-term unemployment was the least frequent, accounting for 7.0% of all unemployed in 2003. Overall, the incidence of medium-term unemployment is higher for men (7.3%), older persons (9.2%), persons with a university degree (9.4%), and Ontario (7.6%). In general, the medium-term unemployed appear to have more in common with the long-term unemployed than with the short-term unemployed. However, some differences between the two are evident, notably education. This may be because the most educated are more selective in the medium term in their job search, partly because they have higher wage expectations and also because they generally consider themselves more likely to receive a better job offer in the future.

Duration of unemployment

	Short-term	Medium-term	Long-term	Unknown*
	%			
Both sexes	79.1	7.0	9.7	4.3
Men	78.0	7.3	11.0	3.8
Women	80.5	6.7	8.0	4.9
Age				
15 to 24	89.2	3.5	3.2	4.2
25 to 44	78.4	8.1	9.6	4.0
45 and over	69.0	9.2	17.0	4.7
Education				
Less than grade 9	72.0	7.7	15.7	4.8
University degree	73.5	9.4	12.3	4.7
Other	80.7	6.5	8.7	4.1
Region				
Atlantic	79.5	6.6	7.5	6.4
Quebec	76.8	7.1	12.2	4.0
Ontario	79.9	7.6	9.0	3.6
Prairies	85.1	4.8	4.3	5.9
British Columbia	76.3	7.3	12.5	3.7

Source: Labour Force Survey, 2003

* Refers to those due to start a new job in the four weeks following the survey (see Data source and definitions).

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Low income among immigrants and visible minorities

Boris Palameta

Since the 1950s, immigrants have accounted for a steadily increasing proportion of Canada's population. By 2001, 18.4% of Canadians were born in other countries, a level similar to that during Canada's first immigration boom in the early 1900s. However, the composition of the current immigrant population is very different. Prior to the 1960s, the vast majority of immigrants came from Europe or the United States, but by 2001, more than half of Canada's immigrant population had come from other regions. Many were visible minorities; between 1981 and 2001, their proportion almost tripled, from under 5% to 13.4% of Canada's population.

The economic contribution of immigrants is well-established, yet the gap in well-being between immigrants and non-immigrants has increased in recent years. Low-income rates of immigrants relative to non-immigrants, as well as the earnings gap between them, rose substantially from 1980 to 2000, particularly for recent immigrants (Frenette and Morissette 2003; Picot and Hou 2003).

This study addresses two important gaps in the literature. The first is the vulnerability of immigrants to low income from a longitudinal perspective. Second, because many immigrants are also in a visible minority group, it has been difficult to disentangle the association between immigrant status and low income, and between visible minority status and low income. The question of whether visible minority immigrants are worse off than other immigrants has remained largely unanswered.

Previous studies of low-income exposure using the Survey of Labour and Income Dynamics (SLID) have not been able to focus on immigrants or visible minorities because the sample size was not sufficiently

Data source and definitions

The **Survey of Labour and Income Dynamics (SLID)** has been a source of longitudinal data since 1993. Respondents are surveyed twice a year—once on labour and once on income—for six consecutive years. Each six-year period is called a panel, and new panels are begun every three years. Presently, longitudinal data are available from two complete panels, 1993 to 1998 and 1996 to 2001, which have been combined into a single file. Because each panel represents the Canadian population at the time of sample selection, a panel identifier was added to the file to test for possible cohort effects. To ensure accurate variance estimation, bootstrap weights from the final year of each panel were added to the file.

Immigrants were divided into three groups based on years in Canada at the start of their panel. **Early immigrants** had been in Canada for at least 17 years, **mid-term immigrants** from 7 to 16 years, and **recent immigrants** from 1 to 6 years. These time periods correspond to those used by Morissette and Zhang (2001).

Visible minority status is derived from responses to questions on ethnic background, mother tongue and country of birth, using a procedure developed by the Interdepartmental Working Group on Employment Equity Data (IWGEED 1993).

The present analysis is limited to individuals 16 and older in the first year of their panel. Of the 46,905 individuals, 2,594 were excluded because less than six years of data were available. Attrition rates were higher for recent and mid-term immigrants—9.7% and 9.5% respectively—than for other Canadians (4.4%). Thus recent and mid-term immigrants may be slightly under-represented. Nevertheless, over 90% of the original sample of recent and mid-term immigrants were still in the survey six years after being selected. An additional 1,432 individuals were excluded because of missing or incomplete information.

Individuals were considered to be in low income for a given year if their economic family had an income that fell below their **low-income cutoff (LICO)**, derived from the Survey of Household Spending. LICOs convey the income level at which a family may be in straitened circumstances because it has to spend a greater proportion of its income on necessities (food, shelter and clothing) than the average family of similar size. After-tax LICOs were used, since after-tax income is a better indicator of disposable income.

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large. (Drolet and Morissette 1999; Morissette and Zhang 2001). The recent completion of a second six-year panel offers a larger sample by combining data from the second panel with the first. In this article, individuals below the low-income cutoff (LICO) for at least one year are compared with those never below the LICO (see *Data source and definitions*). The article also looks at how individuals repeatedly exposed to low income (for at least three of six years) differed from those who had more limited exposure (one or two years).

Recent immigrants are younger, are more likely to be visible minorities, and have higher rates of low income than other Canadians

Results showed that immigrants differ markedly from other Canadians (Table 1). Early immigrants were considerably older than non-immigrants, while recent immigrants were younger. Almost half of early immigrants were 55 or older at the start of the survey, compared with just over 20% of non-immigrants and less than 10% of recent immigrants. In contrast, well over half of recent immigrants were under 35, compared with just under 40% of non-immigrants and only 15% of early immigrants.

More than three-quarters (78%) of married recent immigrants had children, compared with just over half (52%) of non-immigrants and less than two-fifths (39%) of early immigrants.

Recent waves of immigrants have tended to come predominantly from Asia rather than Europe (Boyd and Vickers 2000; Chui and

Table 1: Characteristics of immigrants and non-immigrants

	Total	Canadian-born	Immigrants		
			Early	Mid-term	Recent
			%		
Both sexes	100.0	82.3	11.7	3.3	2.7
Men	48.6	48.8	48.0	46.0	45.7
Women	51.4	51.2	52.0	54.0	54.3
Age*					
16 to 24	15.4	17.0	3.3	16.6	19.5
25 to 34	21.2	22.1	11.3	22.4	36.1
35 to 44	22.5	23.0	16.4	28.6	26.5
45 to 54	17.0	16.3	23.8	17.2	9.3
55 to 64	11.2	10.2	21.5	4.5	F
65 and over	12.7	11.5	23.7	10.8	4.0
Visible minority status					
Visible minority	7.9	1.7	20.8	62.2	74.7
Not a visible minority	92.1	98.3	79.2	37.8	25.3
Education*					
No high school diploma	29.0	29.0	30.1	27.5	26.2
High school diploma, no bachelor's degree	58.2	58.7	54.5	56.8	59.0
Bachelor's degree and higher	12.8	12.3	15.4	15.6	14.8
Family type*					
Unattached	15.2	15.7	14.9	8.6	8.7
Married with children	36.7	37.1	26.0	46.9	58.4
Married, no children	33.8	33.7	41.5	21.8	16.3
Lone parent	4.5	4.6	3.5	6.2	F
Other	9.8	8.9	14.1	16.5	11.7
Province*					
Quebec	26.3	28.9	12.6	18.4	16.1
Ontario	36.7	33.0	56.5	49.3	47.3
Alberta	8.9	8.8	7.9	11.4	11.0
British Columbia	12.8	11.8	17.5	15.0	23.0
Other	15.3	17.5	5.5	5.9	2.7
Urban/rural					
Urban (all six years)	77.2	74.7	88.1	90.3	91.5
Rural (at least one year)	22.8	25.3	11.9	9.7	8.5
Low income					
At least one year	22.9	22.0	18.4	40.7	47.4
At least three years	10.4	9.7	7.7	21.6	30.8

Source: Survey of Labour and Income Dynamics, 1993-2001

* At beginning of survey.

Zietsma 2003). Three of 4 recent immigrants and 3 of 5 mid-term immigrants were visible minorities, compared with only 1 of 5 early immigrants and less than 1 of 50 non-immigrants. A higher proportion of immigrants lived in Ontario or British Columbia, while a lower proportion lived in Quebec; a lower proportion also lived in rural areas.

Compared with the rest of the population, a higher proportion of recent and mid-term immigrants experienced low income. Just over 40% of mid-term immigrants and close to half (47%) of recent immigrants were below the LICO for at least one of the six years they were surveyed. Of these,

more than half of mid-term immigrants and almost two-thirds of recent immigrants were below the LICO for three or more years. In contrast, only about 1 in 5 non-immigrants or early immigrants experienced low income for at least one year. Of those, less than half were in low income for three or more years.

What factors are associated with low income among immigrants? Are increased low-income rates among recent and mid-term immigrants a general trend—regardless of age, sex, marital status, education, or province of residence? Or are specific groups of recent and mid-term immigrants—visible minorities, for example—more likely to experience low income than other Canadians?

To answer these questions, two logistic regression models were used (see *Logistic regression models*). The first model compared individuals who had some exposure to low income with those who had no exposure. The second compared those who had limited exposure with those who had repeated exposure.

Interaction terms were added to both models to test whether the same factors were associated with low income for immigrants and non-immigrants. Cohort effects tested using a panel identifier and panel interaction terms were non-significant, so results from the two panels were combined.

Table 2: Probability of being in low income for at least one year in six

	Canadian-born	Recent immigrant
	%	
Reference person*	11.2	34.3
Men	8.9	28.7
Education**		
No high school diploma	18.2	48.0
Bachelor's degree or higher	6.2	21.4
Family type**		
Unattached	34.3	68.4
Married, no children	9.1	29.3
Lone parent	38.0	71.7
Other	16.1	44.3
Province**		
Quebec	16.9	45.8
Alberta	15.2	42.6
British Columbia	13.7	39.7
Other	14.8	41.8

Source: Survey of Labour and Income Dynamics, 1993-2001

* Married woman in Ontario, aged 35 to 44, with children and a high school diploma, not a visible minority. The reference person's probability is significantly different from the other probabilities shown. A similar pattern is found if a reference person with different characteristics is selected.

** At beginning of survey.

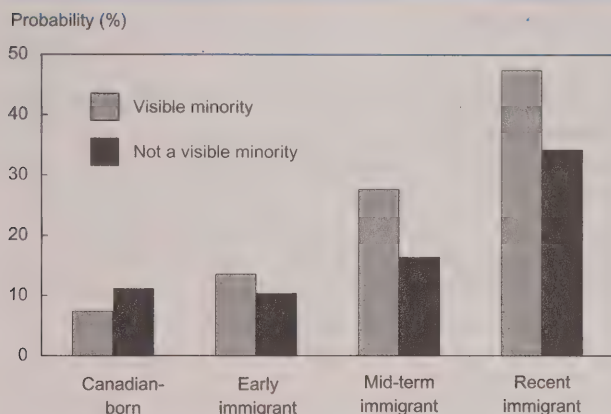
Visible minority status was linked with low income for immigrants, but not for non-immigrants. Canadian-born visible minorities were no more likely than others born in Canada to experience low income. If anything, the tendency was for visible minorities to be less likely than other non-immigrants to experience low income, although the difference was not statistically significant (Chart A). On the other hand, visible minority immigrants were significantly more likely than other immigrants to be in low income, regardless of time in Canada. These results are consistent with previous findings that foreign-born, visible-minority men have a wage disadvantage (Hum and Simpson 1998).

Recent immigrants are more likely than the Canadian-born to be in low income for at least one year

Some variables—sex, education, family type, and province—were linked with low income in the same way for immigrants and non-immigrants. Women, unmarried persons, those with no high school diploma, and those living in a province other than Ontario were most likely to experience low income for at least one year. However, in each case, the likelihood for recent immigrants was two to three times more than for the Canadian-born (Table 2). Even the least vulnerable group of recent immigrants—those with university degrees—were about the same as non-immigrants with no high school diploma. On the other hand, neither early nor mid-term immigrants were generally more likely than non-immigrants to experience low income.

Visible minority immigrants are more likely than other immigrants to be in low income for at least one year

Chart A: Recent immigrants are more likely than other immigrants to be in low income for at least one year.



Source: Survey of Labour and Income Dynamics, 1993-2001

Note: The chart is for married women in Ontario, aged 35 to 44, with children and a high school diploma. Similar patterns hold for other groups.

Seniors are less likely than other age groups to experience low income — except among mid-term immigrants

Among non-immigrants and early immigrants, 16 to 24 year-olds had the highest likelihood of experiencing low income, while those aged 65 and over had the lowest likelihood. However, recent and mid-term immigrants showed a different pattern (Chart B).

Mid-term immigrants did not differ significantly from non-immigrants in most age groups, with the exception of seniors (65 and over) where they were five times more likely to experience low income than their Canadian-born counterparts.

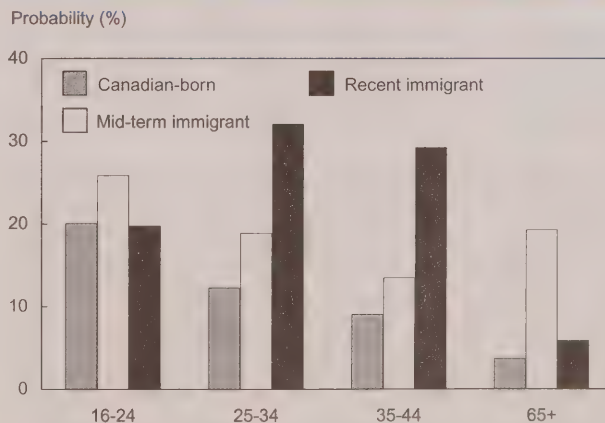
Seniors in general are the group least likely to experience low income, probably because of government programs such as the Canada and Quebec Pension Plans (C/QPP), Guaranteed Income Supplement (GIS), and Old Age Security (OAS), as well as private pensions (Myles 2000). Most seniors relied on pensions or government transfers, with 80% relying on them as their main source of family income for at least four of the six years. However, mid-term immigrant

seniors, having arrived in Canada in their 50s or late 40s, had not had much time to accumulate C/QPP or private pension benefits.¹ Furthermore, those not in Canada for 10 years would not normally be eligible for OAS/GIS.² Over 80% of mid-term immigrant seniors whose primary source of family income was pensions or government transfers experienced low income for at least one year, compared with only 15% of Canadian-born seniors and 17% of early immigrant seniors.

Although the youngest age group (16 to 24) generally had the highest likelihood of experiencing low income, recent immigrants were an exception. They had roughly the same likelihood of experiencing low income as the Canadian-born (Chart B), whereas in all other age groups, recent immigrants had a significantly greater probability than non-immigrants.

Most of the youngest recent immigrants came to Canada in their teens, probably with their parents. More than three-quarters continued to live with their parents for at least three of the six years, compared with 60% of other 16 to 24 year-olds. No obvious characteristics clearly distinguish recent immigrant families with 16 to 24 year-olds from other recent immigrant families.

Chart B: The probability of being in low income for at least one year declines steadily with age only for the Canadian-born.



Source: Survey of Labour and Income Dynamics, 1993-2001

Note: The chart is for married women in Ontario, without children, with a high school diploma, and not a visible minority. Similar patterns hold for other groups. Only significant differences are shown.

Logistic regression models

Logistic regression estimates the probability of a particular outcome (here, experiencing low income) as a function of several explanatory variables. The association between each explanatory variable and the outcome is examined while holding all other variables constant. In other words, the probability of experiencing low income can be compared for individuals identical in every respect but one. For instance, a comparison can be made between recent immigrants and non-immigrants of the same age, educational level, family type, or visible minority status. An F-statistic is computed for each explanatory variable to determine whether a change in that variable is associated with a significant change in the probability of experiencing low income.

To account for the complex survey design, the analysis was conducted using SLID bootstrap weights and SUDAAN version 8.0. Global tests for possible interaction effects between immigrant status and other explanatory variables were included in the analysis. Interactions that were not significant at the global level were dropped, while globally significant interactions were examined further to see which individual components were significant. Similarly, cohort effects were examined in detail by interacting the panel identifier with every other explanatory variable.

Recent immigrants and visible minorities are more likely to have repeated exposure to low income

Among those in low income for at least one year, recent immigrants were more likely than non-immigrants to have repeated (three or more years) rather than limited (one or two) exposure. Similarly, visible minorities who were in low income at least once, including those born in Canada, were more likely than other Canadians with similar characteristics who were not visible minorities to experience low income repeatedly (Table 3).

Other groups who, having been in low income at least once, were at risk for repeated exposure included women, people in urban areas, those without a high school diploma, unattached individuals and lone parents, and those living in provinces other than Ontario or Alberta. Young people and seniors experiencing low income were more likely than 35 to 44 year-olds to have only limited rather than repeated exposure. Similarly, among married people, those with no children had a lower risk of repeated exposure than those with children.

Table 3: Probability of repeated low income (three years or more)

	%
Reference person*	30.8
Men	26.5
Immigrant status	
Recent immigrant	49.5
Mid-term immigrant	n.s.
Early immigrant	n.s.
Visible minority	41.6
Education**	
No high school diploma	41.3
Bachelor's degree or higher	n.s.
Family type**	
Unattached	54.7
Married, no children	23.3
Lone parent	46.5
Other	n.s.
Rural	21.3
Province**	
Quebec	50.5
Alberta	n.s.
British Columbia	39.2
Other	42.6

Source: Survey of Labour and Income Dynamics, 1993-2001

* Canadian-born married woman with children, aged 35 to 44, with a high school diploma, not a visible minority, residing in an urban area in Ontario.

** At beginning of survey.

n.s. The probability is not significantly different from that of the reference person. A similar pattern is found if a reference person with different characteristics is selected.

Summary

The majority of immigrants were no more likely than other Canadians to experience low income from 1993 to 1998, or 1996 to 2001. Nevertheless, three groups of immigrants—recent arrivals who had been in Canada for less than seven years, visible minorities, and seniors who had come to Canada in their late 40s or their 50s—were at greater risk of experiencing low income for at least one year.

Recent immigrants were two to three times more likely than non-immigrants to experience low income, regardless of sex, level of education, family type, or province of residence. Furthermore, they were more likely to experience it repeatedly.

Most mid-term and early immigrants were no more likely than non-immigrants to experience low income, suggesting that, after a period of adjustment,

immigrants generally integrate well into Canada's economy. Nevertheless, the gap between recent immigrants and non-immigrants in both earnings and low income rates has been growing over the past two decades (Frenette and Morissette 2003; Picot and Hou 2003), perhaps indicating that new arrivals will take longer to catch up.

Canadian-born visible minorities were no more likely than others born in Canada to experience low income. However, visible minority immigrants were more likely than other immigrants to be exposed to low income, even among immigrants who had been in Canada for over 17 years. Among those in low income for at least one year, visible minorities (even the Canadian-born) were more likely to experience low income for three or more years.

The increased susceptibility of visible minority immigrants to low income suggests that they may have a more difficult transition than other immigrants. They may be less likely to have a working knowledge of one of the official languages. They may also be less likely to have their educational credentials accepted by regulatory bodies and potential employers. Discrimination is another possible factor; results from the Ethnic Diversity Survey show that 1 in 5 visible minority individuals report discrimination or unfair treatment, particularly in a work setting or when applying for a job (Statistics Canada 2003).

Mid-term immigrants make up a small (3%) but vulnerable proportion of Canada's seniors. They were roughly five times more likely than their Canadian-born counterparts to experience low income. In general, seniors were less likely to experience low income than any other age group. However, mid-term immigrant seniors, who came to Canada in their 50s or late 40s and found work may not have been able to build up sufficient pension wealth to stave off low income.

Perspectives

■ Notes

1 Most recent immigrant seniors were in their 60s when they arrived, and so had had even less time to accumulate work-related benefits. However, the majority lived with family members rather than alone or in a couple, and therefore did not have to rely on pensions and government transfers as their main source of family income.

2 Canada has social security agreements with several countries, so some immigrant seniors may receive international pension benefits even if they are not eligible for OAS/GIS.

Details are available from the Social Development Canada Web site. Internet: <http://www.sdc.gc.ca/asp/gateway.asp?hr=/en/isp/ibfa/intlben.shtml&hs=ozs>.

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Low income in census metropolitan areas

Andrew Heisz and Logan McLeod

Recently, Statistics Canada released the first in a series of reports examining trends and conditions in Canada's largest urban areas. This article covers the main highlights.

Readers are encouraged to read the full report for more details:

Low Income in Census Metropolitan Areas, 1980-2000, by Andrew Heisz and Logan McLeod, 2004.

Internet: www.statcan.ca/english/research/89-613-MIE/89-613-MIE2004001.htm

All Canadians—business people, politicians and the general public—share a heightened interest in and awareness of the ‘status’ of Canada’s metropolitan areas. They are concerned about renewing community life in the urban centres. This means addressing poverty, enhancing the business climate, and providing new opportunities to learn and to work for all Canadians—including new immigrants and Aboriginal people.

This article examines income and low income in Canada’s 27 census metropolitan areas (CMAs) between 1980 and 2000 using census data. It looks at the situation of families and the neighbourhoods they live in. The objective is to present a statistical portrait of Canada’s urban areas, and to describe the income of Canadians from an urban perspective. A diversity of outcomes across metropolitan areas, income levels, decades, and demographic groups are summarized.

Income between 1980 and 2000

The median income of families¹ living in a metropolitan area in 2000 amounted to \$62,300, a 1% increase from 1990 (Table 1). But on the whole, incomes rose faster during the 1980s. Median family income in metropolitan areas rose 5% during the 1980s and 7% over the entire 20-year period.

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These aggregate trends were generally reflected among individual CMAs, but outcomes were diverse. In the 1980s, 15 of 27 CMAs posted growth of at least 5%, but 4 showed either no growth or a decline. These CMAs tended to be located in western Canada, where the recession of the 1980s hit hardest. In the 1990s, while 12 CMAs showed either no growth or a decline, the median income of some continued to grow. Altogether, 5 CMAs posted a growth rate of 5% or more in the 1990s.

Most CMA residents shared in the economic growth of the 1980s to some extent. Incomes increased at both ends of the income distribution, particularly at the top. Because of rising income at the bottom of the distribution, the low-income rate in CMAs fell from 18.3% to 17.2% between 1980 and 1990.² Most centres shared in this decline.

In the 1990s, growth was concentrated more among high-income families, with the income of lower-income families growing little or declining in many CMAs (Chart A). An examination of income growth at the 10th and 90th percentiles serves as an illustration. At the 10th percentile, income is lower than 90% of the population and higher than 10%. At this percentile, income fell by 1.6% in the 1990s; in 9 CMAs, it fell by 5% or more. Similarly, at the 90th percentile, income is higher than 90% of the population and lower than 10%. At this percentile, income rose by 7.7%, with 21 CMAs registering 5% or more, and 7 CMAs 10% or more.

As a result of falling incomes at the 10th percentile, the low-income rate for all CMAs combined rose slightly, from 17.2% to 17.7% between 1990 and 2000.

Table 1: Median income for economic families

	1980	1985	1990	1995	2000	1980- 1990	1990- 2000	1980- 2000
			2000 \$				% change	
All CMAs	58,400	57,100	61,500	57,000	62,300	5	1	7
St. John's	50,200	48,600	55,800	50,900	54,300	11	-3	8
Halifax	51,300	53,600	58,000	54,700	57,400	13	-1	12
Saint John	49,800	44,500	51,400	48,900	51,600	3	0	4
Chicoutimi-Jonquière	49,300	48,900	51,400	47,500	51,400	4	0	4
Québec	53,800	50,900	54,900	51,500	54,800	2	0	2
Sherbrooke	46,300	44,200	46,400	45,800	49,400	0	6	7
Trois-Rivières	46,300	44,800	48,500	46,300	48,400	5	0	5
Montréal	53,700	51,200	54,800	50,400	55,000	2	0	2
Ottawa-Gatineau	62,800	64,800	70,700	64,400	71,600	12	1	14
Kingston	53,000	55,600	59,400	56,300	59,800	12	1	13
Oshawa	61,000	63,900	68,800	65,900	71,500	13	4	17
Toronto	65,400	65,800	70,200	63,300	70,300	7	0	7
Hamilton	59,400	58,800	62,600	60,800	65,500	5	5	10
St. Catharines-Niagara	54,200	53,700	55,300	53,600	57,400	2	4	6
Kitchener	56,100	55,700	60,900	60,100	65,900	9	8	18
London	56,000	55,300	59,100	56,800	61,100	5	3	9
Windsor	54,100	58,900	59,000	62,500	68,500	9	16	27
Greater Sudbury	55,100	52,700	61,000	57,200	57,500	11	-6	4
Thunder Bay	59,200	58,600	62,800	59,900	60,500	6	-4	2
Winnipeg	54,500	55,400	56,800	53,500	57,300	4	1	5
Regina	59,300	58,200	60,300	56,200	59,800	2	-1	1
Saskatoon	55,000	53,600	54,300	51,600	55,000	-1	1	0
Calgary	66,400	63,000	66,200	61,900	69,000	0	4	4
Edmonton	63,900	58,100	61,200	56,600	63,000	-4	3	-1
Abbotsford	51,900	45,800	55,100	52,700	56,000	6	2	8
Vancouver	63,000	56,700	64,700	58,000	62,900	3	-3	0
Victoria	55,100	48,700	57,800	56,200	60,600	5	5	10

Source: Census of Canada, 1981-2001

However, trends among CMAs were mixed, with low-income rates rising in some and falling in others. The largest rise was in Vancouver, where the rate increased from 15.8% to 19.1%.

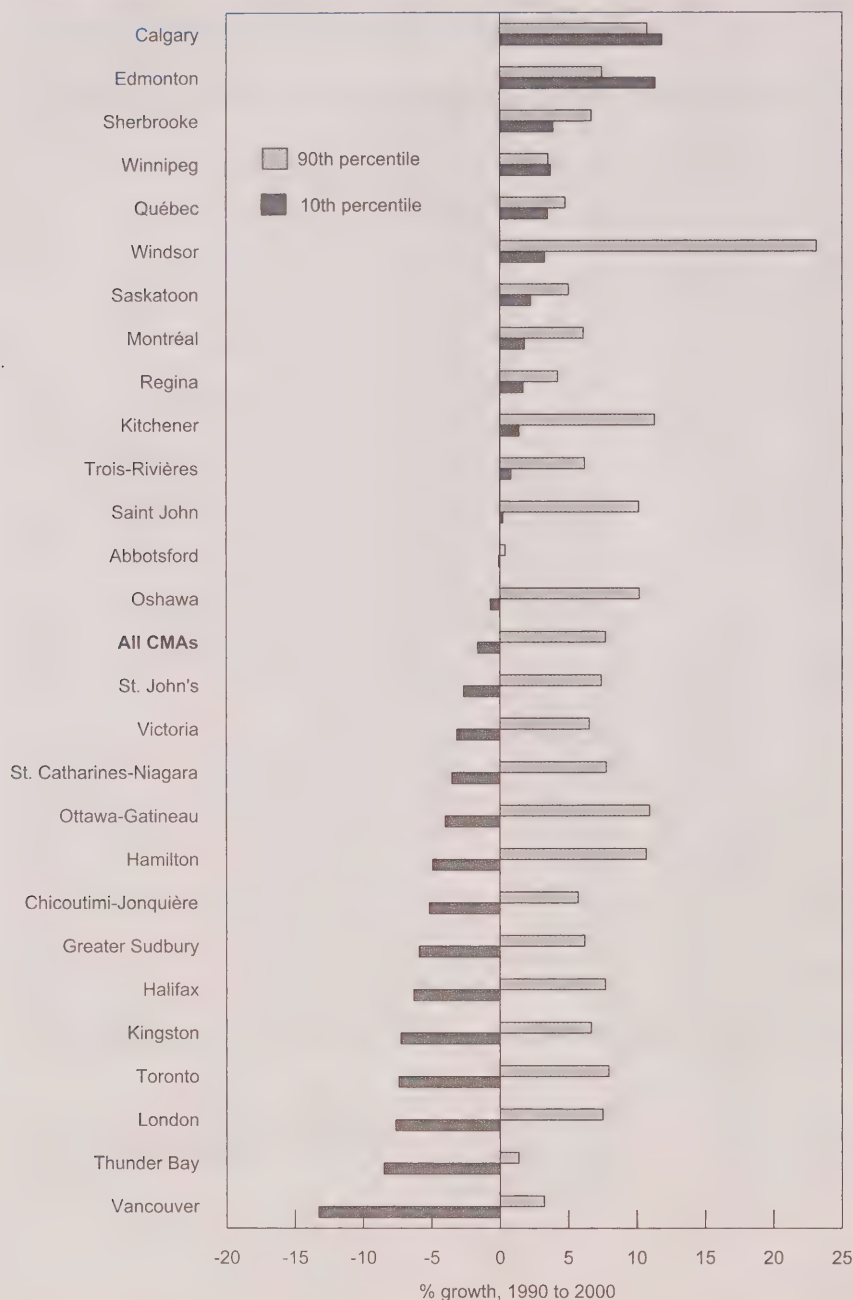
Low-income rates higher and rising among recent immigrants

Low-income rates within CMAs were higher among certain groups, making them disproportionately represented among the low-income population. Three groups in particular tended to have higher low-income rates relative to the population of a given CMA:

recent immigrants (those who arrived during the decade preceding the census),³ Aboriginal people, and lone-parent families.

The low-income rate for lone-parent families⁴ was 46.6% in 2000, compared with 15.4% for other types of families (Table 2). Although high in 2000, the low-income rate among lone-parent families was even higher in 1980 (54.2%). In 2000, individuals in lone-parent families made up a disproportionately large share of the low-income population in CMAs—19.3% compared with 7.3% of the overall CMA population.

Chart A: At the 90th percentile, income grew in all CMAs; at the 10th percentile, in only half.



Source: Census of Canada, 1991 to 2001

In 2000, recent immigrants had a low-income rate of 35.0%, nearly twice the overall CMA average. In

1980, in contrast, their rate was only 23.1%. The growth was substantial in CMAs with large populations of

recent immigrants. As with lone parents, recent immigrants represented a disproportionate share of the low-income population.

While low-income rates rose for recent immigrants, their share of the population also increased, especially in the 1990s. In 2000, 9.0% of CMA residents were recent immigrants, compared with 6.1% in 1990.

In Toronto and Vancouver, two large CMAs, the low-income rate increased in the 1990s. Virtually all of the rise in these areas was concentrated among recent immigrants. In Toronto, the low-income rate in 2000 was 17.7%, up 1.8 percentage points from 1990. Among recent immigrants, however, the rate rose by 4.6 points to 32.8%. In contrast, among all other groups, it was virtually unchanged. In Vancouver, the low-income rate rose by 3.3 percentage points to 19.1%, while among recent immigrants, it rose 10.7 points to 37.4%. In contrast, among all other groups, it increased only 0.7 points to 15.4%.

Among Aboriginal people in CMAs, 41.6% were living in low income, more than double the national average for CMAs. As with lone parents and recent immigrants, Aboriginal people represented a disproportionately large share of the low-income population. (Because of changes in collection of information on Aboriginal people, they can be consistently defined only in the 1996 and 2001 censuses.)

CMAs have widely varying proportions of Aboriginal people and immigrants. Consequently, the composition of the low-income population varied widely. In Winnipeg, Regina and Saskatoon, Aboriginal people represented more than 20% of the low-income

Table 2: Low-income rates and population shares, by group, 2000

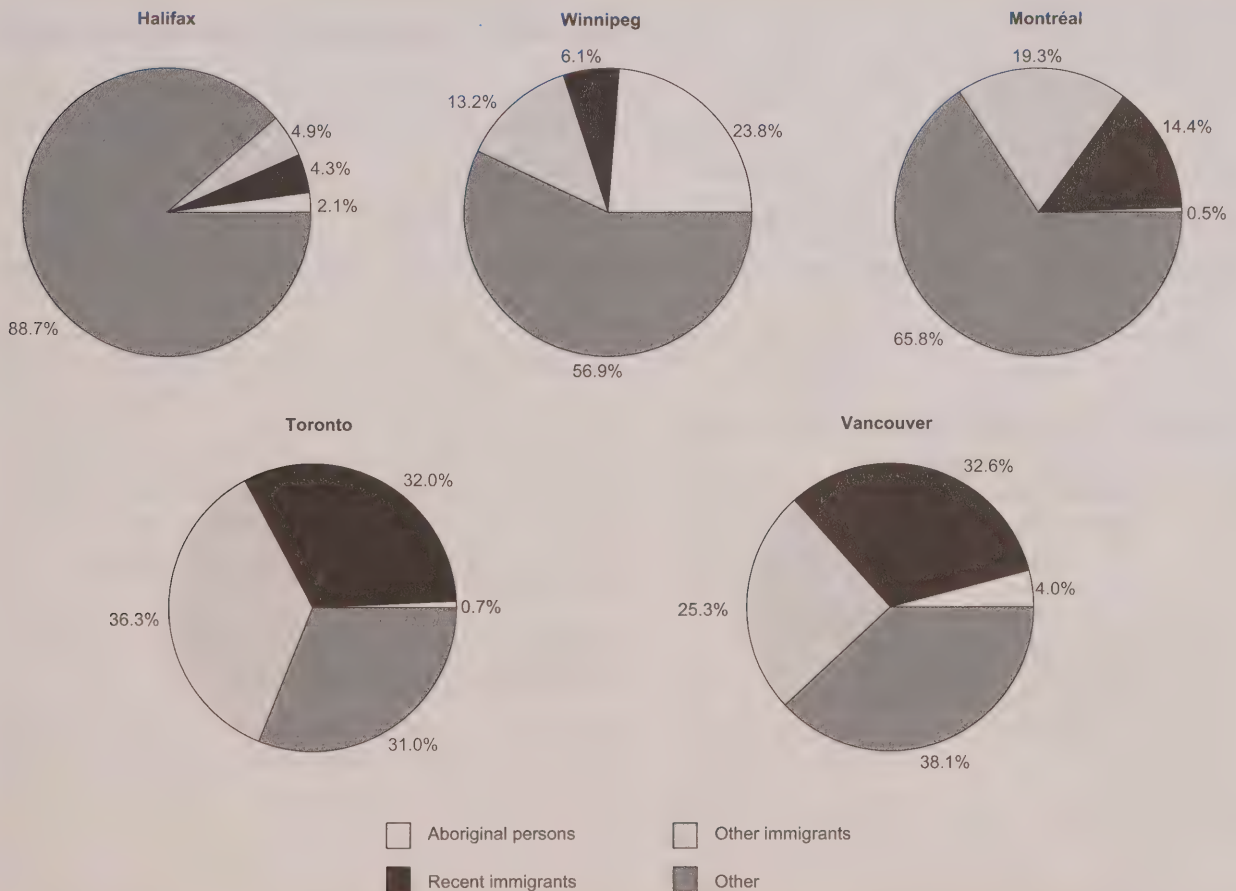
	Low-income rate	Population	
		Total	Low-income
		%	
All persons	17.7	100.0	100.0
Aboriginal people	41.6	1.6	3.7
Recent immigrants	35.0	9.0	17.7
Other immigrants	18.3	20.8	21.5
Other	14.7	68.7	57.0
Not in lone-parent families	15.4	92.7	80.7
In lone-parent families	46.6	7.3	19.3

Source: Census of Canada, 2001

population. In Toronto and Vancouver, little of the low-income population consisted of Aboriginal people. On the other hand, recent immigrants comprised much larger shares: 32.0% in Toronto and 32.6% in Vancouver (Chart B).

Widening income gap between richer and poorer neighbourhoods

The increase in the income gap between higher- and lower-income families in CMAs was reflected in

Chart B: The composition of the low-income population varied considerably by CMA.

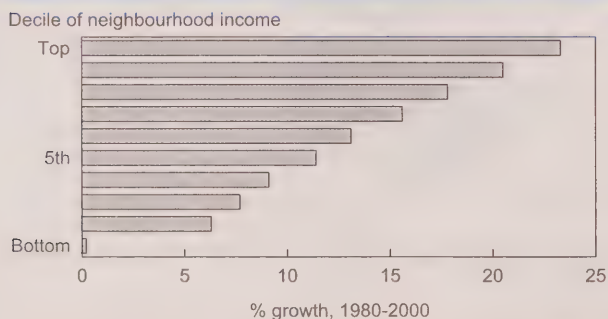
Source: Census of Canada, 2001

an increasing income gap between lower- and higher-income neighbourhoods (defined by census tracts). In Toronto, for example, median family income in the poorest 10% of neighbourhoods rose 0.2% from 1980. In the richest 10%, it was up 23.3% (Chart C). This increasing difference was observed in all larger CMAs (Chart D). In areas such as Ottawa-Gatineau, Kitchener, St. Catharines-Niagara and London, income rose in both higher- and lower-income neighbourhoods, although more in the former. In Hamilton, Winnipeg, Calgary, Montréal, Québec and Edmonton, income rose in higher-income neighbourhoods and fell in lower-income neighbourhoods. In Vancouver, it fell in lower-income neighbourhoods, but was unchanged in higher-income neighbourhoods.

However, while the income gap between richer and poorer neighbourhoods grew, the proportion of low-income neighbourhoods remained relatively stable between 1980 and 2000 in the 27 CMAs. (A low-income neighbourhood has a low-income rate exceeding 40%.) In 1980, 6.1% of CMA neighbourhoods were low-income neighbourhoods. This fell to 5.5% in 1990, doubled to 11.8% in 1995, then fell again, to 5.8%, in 2000 as economic conditions improved.

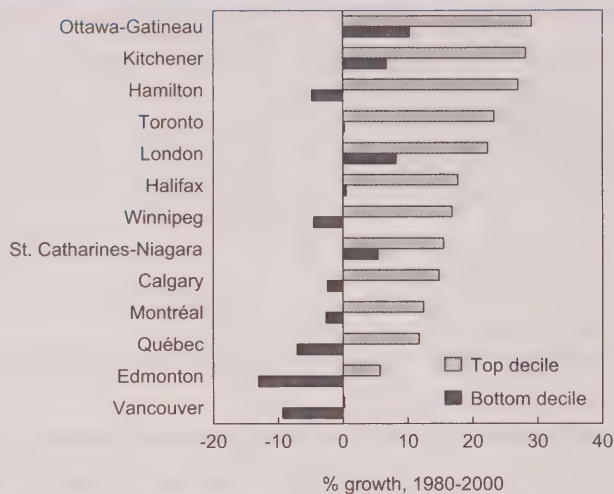
The location of low-income neighbourhoods in the largest CMAs is also of concern. Are they clustered together in the downtown core or dispersed throughout the CMA? In fact, Canadian CMAs are diverse in this regard. Some, such as Winnipeg (Figure 1) and Vancouver, have a single dominant cluster of low-income neighbourhoods in the downtown core.

Chart C: In Toronto, the higher the neighbourhood income, the greater the increase in median income.



Source: Census of Canada, 1981-2001

Chart D: Income growth varied considerably by CMA and income decile.



Source: Census of Canada, 1981-2001

Others, such as Toronto and Montréal, have several distinct clusters surrounding a relatively affluent downtown.

In Toronto and Montréal, low-income neighbourhoods were also less likely to be found downtown and more likely to be found in clusters outside of downtown in 2000 than they were in 1980. In Montréal for example, Plateau Mont-Royal was one of two areas with low-income rates greater than 40% in 1980, but not in 2000 (Figure 2). The other was Old Montréal, the site of a number of new condominium developments. At the same time, three clusters of low-income neighbourhoods farther from the city centre grew over this period: Hochelaga-Maisonneuve in the east end, Côte-des-Neiges, and Park Extension (near Mont-Royal).

Certain groups more likely to live in low-income neighbourhoods

Recent immigrants, Aboriginal people and lone-parent families were more likely than other groups to live in low-income neighbourhoods. In 2000, 11.7% of Aboriginal people lived in low-income neighbourhoods, as did 9.7% of recent immigrants, and 8.7% of those living in lone-parent families. Only 4.4% of CMA residents overall lived in low-income neighbourhoods.

Figure 1: Low-income neighbourhoods* in Winnipeg, 2000

Source: Census of Canada, 2001

* Neighbourhoods are defined by 2001 definitions of census tracts. Low-income neighbourhoods are those with more than 40% of their population in low income.

Residents of low-income neighbourhoods reflected the demographic make-up of the CMA; recent immigrants comprised a large share of low-income neighbourhood residents in Toronto and Montréal, while Aboriginal people represented large shares in Winnipeg, Regina and Saskatoon.

Recent immigrants and Aboriginal people made up a large and rising proportion of residents of low-income neighbourhoods in many CMAs. In Toronto, the share of recent immigrants in low-income neighbourhoods rose from 24.4% in 1980 to 39.1% in 2000. In Montréal, this share went from 7.8% to 19.4%. In Winnipeg, the share of Aboriginal people in low-income neighbourhoods rose from 24.5% in 1995 to 30.8% in 2000.

Summary

Family income growth stalled for many CMA residents in the 1990s. During that decade, income grew for the highest-income families but fell for lower-

income families in many CMAs. Consequently, low-income rates rose in some CMAs and fell in others. Rising low-income rates were seen among recent immigrants who, along with Aboriginal people and lone-parent families, had much higher rates than the general population in 2000. As a result, these groups were highly concentrated among the low-income population in CMAs.

Trends in income and low income observed at the family level were echoed at the neighbourhood level. In most CMAs, income rose more in higher-income neighbourhoods than in lower-income neighbourhoods. The share of neighbourhoods with a low-income rate greater than 40% was about the same in 2000 as in 1980, but recent immigrants, Aboriginal people and lone-parent family members were disproportionately represented. In some CMAs, low-income neighbourhoods were concentrated in the downtown core; in others, they formed distinct

Figure 2: Low-income neighbourhoods* in Montréal, 1980 to 2000



Source: Census of Canada, 1981-2001

* Neighbourhoods are defined by census tracts. Low-income neighbourhoods are those with more than 40% of their population in low income. For this analysis, census tract boundaries were held constant at their 1981 configurations for computing low-income status, and then graphed using 2001 boundaries.

clusters surrounding a relatively affluent downtown. Low-income neighbourhoods shifted away from the downtown core in some CMAs over the period.

Perspectives

■ Notes

1 Income of economic families after transfers and before tax. An economic family refers to two or more persons who live in the same dwelling and are related to each other by blood, marriage, common law or adoption. Unattached individuals are excluded. Trends using the adult-equivalent adjusted income of all persons (unattached individuals and economic family persons) were similar. Income refers to total income received in the year preceding the census.

2 Low income is measured on an after-transfer, before-tax basis. A person is deemed to be in low income if their adult-equivalent adjusted income is below one-half the median adult-equivalent adjusted income in their particular CMA. This threshold will vary from CMA to CMA, but on average it was \$33,600 for a family of two adults and two children measured in 2000 dollars. For other years, income was adjusted to 2000 dollars and compared with the fixed threshold.

3 Canadian-born persons living in families headed by immigrants were included in the totals for immigrants. Persons who immigrated in the census year or the year preceding the census were excluded. Annual income for these immigrants will be biased downwards since they spent none or only part of the reference year in Canada.

4 Includes only lone-parent families with at least one child under 18.

Income replacement among recent widows

Richard V. Burkhauser, Philip Giles, Dean R. Lillard, and Johannes Schwarze

Much attention has recently been focused on issues related to aging. One important question is how financially prepared a couple is for the death of one of the partners. Although not directly answering this question, this study looks at part of the issue by comparing the income of women in Canada, the United States, Great Britain and Germany before and after the death of their husbands during the 1990s.

The implications of the death of a spouse are far more wide-ranging than simply how the deceased person's earnings will be replaced. Nevertheless, it is an important issue to understand, particularly for older women. Younger generations of women are much more likely to be active in the labour market and will have higher personal incomes, whereas older generations were more dependent on a spouse. Also, women tend to live longer than men (average life expectancies were 81.2 and 75.4 in 1996) and are usually younger than their husbands—about two years at first marriage, 3.6 at remarriage after divorce, and 6.5 at remarriage after widowhood. Almost half of marriages end in widowhood that lasts over 15 years for women compared with 9 for men (Nault and Bélanger 1996). Indeed, by their late 60s, more than 1 in 5 women are widowed, and by age 75, widows outnumber married women (Statistics Canada 2004).

In some situations, a widow may feel obliged to find a job or increase her work hours by changing from part- to full-time employment. Another step may be to move in with relatives or friends. This study does not examine the factors leading to these decisions, but simply looks at how well the average widow in the 1990s fared financially after the death of her husband.

Background

Canada and other OECD countries offer an array of government programs to mitigate the effects of major earnings losses on households. Public social insurance systems provide income to a widow based on her husband's past earnings; an assortment of means-tested welfare programs are also available. Such programs typically provide a minimum social safety net for non-workers that may be either universal or targeted (for example, the elderly, disabled, lone parents, survivors).

Private institutions also play an important part in replacing lost earnings. The survivor of a deceased worker may receive payments from the fringe-benefit package offered by the employer. Furthermore, some households can generate income from accumulated wealth, the added market work of other household members, or life insurance settlements.

Researchers who investigate the economic well-being of households after a worker's death often focus on how a given program replaces lost earnings. This is particularly so in cross-national studies. Such studies attempt to measure income available to households after a worker's death. Lack of comparable data, however, often restricts cross-national studies to two types of comparison: a hypothetical average worker's earnings history and the subsequent social insurance benefits (Gruber and Wise 1999), or cross-sectional data on the economic well-being of married women and widows of a given age (Yamada and Casey 2002).¹ More sophisticated studies use synthetic cohort analysis to measure changes in a cohort's economic well-being as it ages and becomes more dominated by widows (Williamson and Smeeding 2002). Such cross-national comparisons convey only part of the story since they are unable to follow actual households.

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This study uses the Cross-National Equivalent File (CNEF), which contains comparable socio-economic information on households in Canada, Germany, Great Britain, and the United States. The CNEF permits the economic well-being of women to be traced following the death of their husbands. While the four countries differ substantially in how specific sources of income change, especially the government and private mix, the overall pattern of replacement rates is remarkably similar.

Data

The Cross-National Equivalent File (CNEF) is a longitudinal micro-database of comparably defined variables from the German Socio-Economic Panel, the United States Panel Study of Income Dynamics, the British Household Panel Study, and the Canadian Survey of Labour and Income Dynamics. The CNEF currently contains data starting from 1980 for the United States, 1984 for Germany, 1991 for Great Britain, and 1993 for Canada. It includes standard demographic information, household income and its components, and individual information on employment and earnings. The file is updated annually with additional years of the panels and newly created comparable variables.²

This study uses a longitudinal sample based on event history to examine the incomes of women before and after the death of a spouse. Because such a death is a relatively rare event, even at older ages in these long-running longitudinal data sets, the number of deaths among sample members is modest. The sample consists of 361 German, 216 British, 473 Canadian, and 437 United States women whose husbands died sometime during the life of the panel. To measure changes in the economic well-being of the widow's household, all sources of household income were tracked. For each country, women were pooled by the age of their husbands at death, regardless of the calendar year in which the death occurred. To avoid complication, the analysis focused on household income in the year before and after the husband's death.³

While income is a very useful measure, wealth and how it changed would provide even greater insight into how the economic well-being of women changed following the death of their husbands. Changes in income are included in these datasets but not changes in wealth. This is a problem especially with respect to life insurance. While the flow value from any investments purchased with life insurance payments made to a widow

(for example, the interest from a life insurance payout that was put into a bank account) would be included as income in the years following death, the value of the full life insurance payment that caused the increase would not be captured. The results could be affected if the effect of life insurance settlements on the economic well-being of widows varied according to the husband's age at death or if it varied among countries. Similarly, the effect of the sale of assets to cover living expenses is not measured.

Definition of household income

Each country has a network of government programs that offset lost earnings and provide some level of income protection for non-working citizens. It is always difficult and somewhat arbitrary to equate specific programs across countries. In each of the four countries, all government cash transfer programs were dichotomized into social insurance (or social security) programs and social welfare programs. To be included in the former, a benefit has to be related to past contributions (taxes) paid. For instance, the Canada and Quebec Pension Plans (C/QPP) are financed primarily by a payroll tax, and each worker's benefit is related to past earnings. The relationship need not be actuarially fair (that is, the present discounted value of expected benefits need not equal taxes paid) but a significant relationship must exist. Second, program benefits cannot be influenced by current income—that is, the program cannot have a means test. So while Employment Insurance benefits are based on contributions, they are reduced in some situations based on overall income. On the other hand, the Old Age Security program is targeted to seniors (the group in which the majority of widows would be found), but it is universal in nature and has been changed in recent years to be means-tested.

Although difficult to define, the distinction between social insurance and social welfare is meaningful because social insurance programs have historically

Social insurance programs

Canada	Canada and Quebec Pension Plans
Germany	Gesetzliche Rentenversicherung (mandatory retirement insurance program) and related programs
Great Britain	National Insurance Retirement Pension
United States	Old-Age Insurance, Disability Insurance, Survivors Insurance

been well-financed in all four countries, while social welfare programs have had a much more varied level of support. Furthermore, social welfare programs are usually focused on lower-income households, while social insurance programs are more evenly distributed across the income spectrum.

Household income is the sum of all income received during a calendar year by individuals residing in a single dwelling. It is measured as post-transfer, post income-tax, money income. These amounts are adjusted for inflation using the consumer price index in each country. Since the statistic of interest is the ratio of income after the spouse's death to income prior to death, the choice of conversion year is arbitrary. Another advantage of focusing on this ratio is that no conversion between monetary units is necessary.

Finally, household income is adjusted each year for the number of people in the household. Since different-sized households require different levels of income, and household size will change after a husband's death, size must be taken into account to allow proper comparisons. A large literature details the problems associated with measuring the economic well-being of individuals in households of different size (Moon and Smolensky 1977; Burkhauser, Smeeding and Merz 1996). Simply comparing a woman's household income, unadjusted for household size before and after the death of her husband, implicitly assumes perfect returns to scale in household production. Alternatively, assigning each survivor a per-capita share of net-of-tax household income, implicitly assumes no returns to scale. A formula that accommodates these two extremes is: $E = D/S^e$ where E is an individual's equivalent income, D is total household income, and S is household size (Buhmann et al. 1988).

Assumptions about economies of scale are captured in the value adopted for e . At one extreme, where $e = 1$, no economies of scale exist, and per capita income is assigned to each person in the household. At the other extreme, where $e = 0$, economies of scale are perfect, and each person is assigned equivalent income exactly equal to household income.⁴ Researchers commonly set e to 0.5, so this value is adopted here.

Role of social insurance programs

A first step is to examine social insurance programs to assess how well they respond to reduced earnings following the death. Since the household may already be receiving social insurance income when the death

occurs, the appropriate comparison is the sum of social insurance income and earnings of the husband in the year before death with social insurance income in the year after death. This is quite restrictive since it excludes any changes a widow decides to make, such as taking a job or moving in with adult children.

For each household, the ratio of household size-adjusted social insurance income in the calendar year after death to the sum of household size-adjusted social insurance benefits and husband's earnings in the calendar year prior to death was calculated. This ratio approximates the replacement rate concept used in simulations typically done to measure the degree to which social insurance benefits replace lost earnings.

In all four countries, social insurance benefits provided substantial protection against income loss for the median woman following the death of her husband at older ages (Table 1). The social insurance replacement rates in the 70 and older age group were very similar across countries and higher than for other ages. For women whose husbands died between 62 and 69, an age range where labour force participation of men in these countries varied considerably, the differences in replacement rates were far greater. Canada had the highest replacement rate, at 0.92; the United States had the lowest, at 0.67. The age groups were chosen in line with the U.S. social security program where 62 is an important age in determining benefits. Persons under 62 were divided into two age groups, as were those 62 and over.

In all four countries, social insurance replacement rates were much smaller for the median widow at younger ages than at older ages. The replacement rate was low for women whose husbands died at a relatively young age, largely because survivors did not automatically

Table 1: Median widow's social insurance replacement rate

	United States	Germany	Great Britain	Canada
Husband's age at death				
25 to 49	0.41	0.17	0.25	0.12
50 to 61	0.00	0.37	0.33	0.47
62 to 69	0.67	0.87	0.84	0.92
70 or older	0.93	0.92	0.88	0.86

Source: Cross-National Equivalent File, 1980-2002

receive social insurance benefits. In the United States, for example, social security benefits are provided to women whose husbands die before age 62 only if there is a dependent child. Consequently, the median U.S. widow whose husband died between age 50 and 61 received no social security benefits. (The value in the table is zero because the median widow in the sample did not have a dependent child.) In the other countries, the median widow this age found more of her late husband's labour income replaced by social insurance benefits. In Canada, the C/QPP pays survivor benefits to widows and widowers this age immediately after the death of a covered worker, based on the worker's accrued contributions. In Germany, widows and widowers under 45 receive 25% of their deceased spouse's pension (or estimated pension). Those 45 and over receive 60%. In Great Britain, widows qualify for National Insurance benefits at any age as long as the husband worked.

Household income replacement rates

As noted, the replacement rate of total post-transfer, post-tax household income (Table 2) provides a more complete understanding of how a woman's economic well-being changes in widowhood than does the social insurance benefit replacement rate.⁵ In addition to the husband's dying, other changes in the composition of the widow's household are incorporated through the use of the income of all household members and an equivalence scale. Additionally, the wife may get a job or increase the number of hours at her current job.

In all four countries, the household income replacement rates were much larger than the social insurance replacement rates at younger ages, and usually larger at older ages. However, the rates in Great Britain were

generally different than those observed in the other three countries—perhaps the result of fewer deaths observed in the British sample. Even more important, from a country comparison viewpoint, the range of the post-transfer, post-tax income replacement rates was much smaller at all ages than the range of the social insurance benefit replacement rates. This suggests that non-public institutions and personal networks are often important in allowing a widow to cope economically after the death of her husband.

The similarity across countries raises the question of how replacement rates are distributed at different points of the household income distribution in the year before the husband dies. (To preserve sample size, widows in each country were pooled regardless of the age of their husband at death.)

Looking at the ratio of post-transfer, post-tax household (size-adjusted) income in the year after the husband's death to the same income in the year before death shows that the fraction of widows in each category was similar across the four countries (Table 3). The median and modal replacement rate category in all four countries lay between 0.75 and 0.99. About three-quarters of women in Canada and Germany had replacement rates of 0.75 or more, while the proportion in the other two countries was somewhat less. But a non-trivial minority of women in all countries experienced larger declines in their household size-adjusted income following the death of their husbands. The United States had the highest share of widows with replacement rates in the two lowest categories. About 13% of U.S. widows experienced a decline in their household size-adjusted income of more than

Table 2: Median widow's household income replacement rate

	United States	Germany	Great Britain	Canada
Husband's age at death				
25 to 49	0.87	0.80	0.97	0.82
50 to 61	0.83	0.83	1.04	0.75
62 to 69	0.89	0.95	0.92	0.94
70 or older	0.94	0.95	0.76	0.96

Source: Cross-National Equivalent File, 1980-2002

Table 3: Distribution of household income replacement rate

	United States	Germany	Great Britain	Canada
	% of widows			
Total	100.0	100.0	100.0	100.0
Less than 0.50	12.8	8.0	7.9	7.6
0.50 to less than 0.75	20.3	17.5	25.0	17.6
0.75 to less than 1.00	27.6	35.5	35.7	36.7
1.00 to less than 1.25	17.4	23.6	14.4	21.0
1.25 to less than 1.50	6.7	8.9	7.4	8.0
1.50 or more	15.3	6.7	9.7	9.2

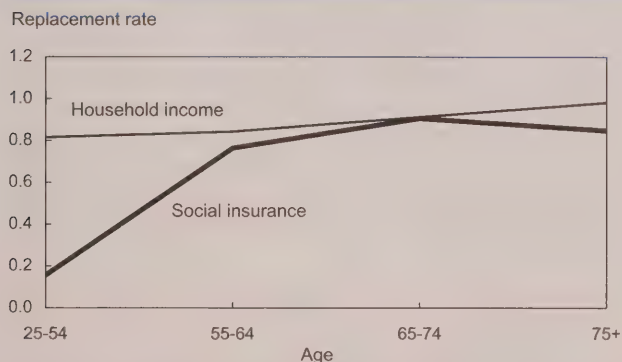
Source: Cross-National Equivalent File, 1980-2002

one-half. This fraction is over 60% higher than in the other three countries. On the other hand, a relatively high percentage of widows had replacement rates of 1.50 or more.

As mentioned, the choice of age groups was dictated primarily according to programs in the United States. To see the effect of this choice on Canadian data, the replacement rates were regenerated with different age groupings (Chart). The C/QPP was designed for principal benefits to start at age 65, so this age was key. Again, four age groups were defined. Overall, the results were quite similar for the two sets of age groups. The social insurance replacement rates for the 55-to-64 and 50-to-61 age groups were quite different, but in the expected direction. In general, at these ages, the higher the age, the higher the replacement rate, likely reflecting the higher level of C/QPP contributions of those dying at older ages. The same phenomenon was observed for household income replacement rates, although the differences were not as dramatic.

To further investigate the economic situation of women in the lower end of the income distribution, it is important to see where they stood prior to the husband's death (Table 4). The lowest quintile of women had replacement rates far in excess of 100%. Somewhat surprisingly and encouragingly, the mean replacement rate ranged from 1.30 in Germany to 1.54 in Canada. Mean replacement rates tended to fall at higher income quintiles, with little difference in within-quintile replacement rates across the four countries. Women in the highest income quintiles prior to the husband's death experienced a greater fall in relative income.

Chart: Canadian replacement rates by age group



Source: Cross-National Equivalent File, 1980-2002

Table 4: Mean household size-adjusted income replacement rates, by income quintile the year before husband's death

	Mean replacement rate	Replacement rate less than 0.50
Lowest quintile		
United States	1.48	2.1
Germany	1.30	5.9
Great Britain	1.45	2.6
Canada	1.54	8.5
Second quintile		
United States	1.10	11.6
Germany	1.03	7.8
Great Britain	0.98	2.2
Canada	0.97	3.6
Third quintile		
United States	0.92	11.3
Germany	0.89	7.8
Great Britain	0.87	10.3
Canada	0.94	2.6
Fourth quintile		
United States	0.82	19.5
Germany	0.88	2.9
Great Britain	0.83	4.4
Canada	0.95	4.0
Highest quintile		
United States	0.75	18.7
Germany	0.82	15.5
Great Britain	0.77	19.2
Canada	0.78	19.0

Source: Cross-National Equivalent File, 1980-2002

The last column in Table 4 provides one final look at the distribution of replacement rate outcomes across income quintiles. It shows the within-quintile proportion of widows with a low replacement rate across the four countries. Sample sizes are relatively small, but results suggest that few dramatic drops in replacement rates occur within the lower income quintiles. It is among women whose pre-death household income places them in the higher quintiles that sharp declines are more likely. Hence, while the overall replacement rates for women in the year following the death of their husband's varied across countries, the bulk of the dramatic drops in replacement rates came from women in households in higher income quintiles.

Conclusion

The median woman's social insurance replacement rate was uniformly high when her husband died at 70 or over in all four countries, more varied when he died in

his 60s, and much lower when he died at a younger age. However, this variation across age and country was reduced substantially once a broader household size-adjusted income replacement rate measure was used. While the median woman still experienced a greater decline in economic well-being if her husband died at a younger age, the difference was much smaller than implied by social insurance replacement rates, as was the difference across countries. The country difference in household size-adjusted income was even smaller at older ages. Thus, across countries and across widows whose husbands died at different ages, the economic loss measured by total household size-adjusted income was much less, and much less varied, than the loss implied by social insurance replacement rates or household income replacement rates unadjusted by household size.

Measures of replacement rates such as the mean or median can obscure substantial differences in the distribution of replacement outcomes. The distribution was wider in the United States than in other countries, and with the exception of the lowest quintile, United States women were more likely than widows in other countries to experience a greater than 50% decline in their household size-adjusted income following their husband's death. However, the mean replacement rates in all four countries for widows in the lower end of the distribution was much greater than 100%; in other words, the size-adjusted household income was much higher for those with the lowest incomes prior to the husband's death. Large declines in replacement rates were more likely to be experienced by women in the upper end of the distribution. Across countries with widely different mixes of public and private support for widows, the economic well-being of women from the lowest quintile of their pre-widowhood household income distribution was almost the same in all four countries.

These results reflect the financial situation of widows in the year after their husband's death; over the longer term, their situation could be quite different.

Perspectives

■ Notes

1 See also other studies using cross-sectional data from the Luxembourg Income Study. Internet: www.lisproject.org/publications/wpapersentire.htm.

2 For a fuller discussion of these data, see Burkhauser et al. (2001).

3 The years used are 1970 to 1997 for the United States, 1984 to 2000 for Germany, 1991 to 2000 for Great Britain, and 1993 to 2000 for Canada. While the use of different time

periods may affect comparisons between countries, the use of the data is of a 'short enough' duration for any particular widow that external social and economic factors would not be significant. Whether the results hold in the long run is another issue.

4 Burkhauser, Smeeding and Merz (1996) show the sensitivity of income inequality and poverty measures to variations in the value of e but recognize that economic theory does not suggest a particular value.

5 An intermediate step could have been to look at the replacement of social insurance and social welfare programs together. However, since the replacement of household income in its entirety is viewed as preferable, this intermediate step was not carried out.

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What's new?

Recent reports and studies

■ JUST RELEASED

■ *Earnings of new immigrants*

The earnings of new immigrants deteriorated during the 1980s and 1990s because of a complex set of factors involving the value of foreign job experience, language abilities and country of origin.

Immigrant men who arrived between 1995 and 1999 had estimated earnings in their first year in Canada that were on average 24% lower than their counterparts who arrived between 1965 and 1969, after adjusting for inflation. Both groups had comparable amounts of foreign experience and years of schooling.

Roughly one-third of the deterioration in the earnings of new immigrants appears to be the result of a decline in the value of foreign labour-market experience. This decline has occurred almost exclusively among men from Canada's non-traditional source regions, which include Eastern Europe, Africa and Asia.

The valuation of foreign credentials in the Canadian labour market may be an issue. However, it seems that the value of a foreign university degree has fallen little during the past 30 years. Hence, this factor does not contribute significantly to the understanding of the decline in entry earnings.

Little or no evidence was found to support the perception that the foreign education of Canada's most recent immigrant men was valued any less by Canadian employers than that of immigrants who came to Canada 30 years ago. This is true whether education is measured as completed years of foreign schooling or as acquired educational credentials from foreign institutions, such as high school diplomas and university degrees.

Immigrants who arrived during the late 1990s came from different nations and spoke different languages than those who arrived in the late 1960s. Roughly one-third of the earnings deterioration was associated with these compositional factors.

A number of other factors may also have also contributed to the earnings decline. One possibility is that immigrants could have experienced the same deterioration in earnings during their first year of work that was experienced by young Canadian-born workers who first entered the labour market.

For more information, see the May 17, 2004 issue of *The Daily*, on Statistics Canada's Web site (www.statcan.ca).

■ *Moving out of low-paid work*

Less than one-half of Canadian workers with a low-paying job in 1996 had managed to climb out of it by 2001.

In December 1996, nearly one-third of Canadian workers, or about 1.7 million, were in low-paying jobs. By 2001, 47% of these low-paid workers, around 800,000, had moved out of their low-paying jobs.

Individuals with weekly earnings of less than \$410.70 at the end of 1996 were flagged as low-paid workers. A low-paid worker in 1996 was said to have 'moved up' if weekly earnings by 2001 were at least \$496.86 a week. This level is approximately 10% greater than \$451.69, the threshold for Statistics Canada's 2001 low income cut-off for a family of two living in an urban area of at least half a million people.

Low-paid workers in 1996 tended to be young and female, with a high school education or less. In addition, they often worked part time in service occupations or in the consumer services industries. They tended to be in small and non-unionized workplaces and to live in the Atlantic provinces, Manitoba or Saskatchewan.

Over 40% of women were in low-paid jobs, almost double the proportion of 22% among men.

Individuals who moved up between 1996 and 2001 tended to be young, university-educated men in professional occupations and industries. More often, they worked full time in large unionized firms and lived in Ontario or Alberta.

Other factors contributed to upward mobility: moving from a non-unionized to unionized firm, and moving from a small firm (fewer than 20 employees) to a large firm (more than 500 employees). For those who remained in the same job, upward mobility was more likely for those who increased their work hours by five or more hours a week or who changed their duties.

Individuals with a university degree or who worked in a large firm were twice as likely to have moved up as those with high school education or less.

In addition, men were twice as likely to move up as women. Nevertheless, women greatly improved their odds if they obtained a university degree or worked in a large organization, the public service, or a professional or science occupation or industry.

The 53% of workers (around 900,000) who remained in low-paid work in 2001 tended to be older women and those with high school education or less. Such individuals were more likely to be working part time for small, non-unionized organizations.

For more information, see the March 26, 2004 issue of *The Daily* on Statistics Canada's Web site (www.statcan.ca).

■ *Labour productivity*

After posting strong growth of 0.8% in the first quarter of 2003, business productivity deteriorated with a decline in the second quarter, almost no increase in the third quarter, and a further 0.3% decline in the fourth quarter. As a result, annual labour productivity growth for 2003 was only 0.1%, the smallest annual increase since the 0.2% drop in 1996.

In the United States, quarterly productivity growth slowed in the fourth quarter to 0.5%, down significantly from the 2.1% observed in the third quarter.

Despite this slowdown, American businesses recorded strong productivity growth of 4.5% for 2003 overall, similar to the 4.9% posted in 2002. An increase of this magnitude has not been seen since 1950.

This is now the third year that the growth in American business productivity has surpassed that of Canadian businesses. The gap in annual productivity growth in favour of the United States has gradually grown since 2001, when it was 1.1 percentage points. By 2002, the gap had risen to 3.0 points, and in 2003 it was 4.4 points. However, these annual productivity differences are based on preliminary data, which are subject to revision. Since 1998, these gaps have generally shrunk following revisions to the preliminary data.

For more information, see the March 12, 2004 issue of *The Daily* on Statistics Canada's Web site (www.statcan.ca).

Perspectives

Key labour and income facts

Selected charts and analysis

This section presents charts and analysis featuring one or more of the following sources. For general inquiries, contact Joanne Bourdeau at (613) 951-4722; bourjoa@statcan.ca.

Administrative data

Small area and administrative data

Frequency: Annual

Contact: Customer Services
(613) 951-9720

Business surveys

Annual Survey of Manufactures

Frequency: Annual

Contact: Dissemination agent
(613) 951-9497

Annual Surveys—Service Industries

Frequency: Annual

Contact: Lucie Lussier
(613) 951-0410

Business Conditions Survey of Manufacturing Industries

Frequency: Quarterly

Contact: Claude Robillard
(613) 951-3507

Census

Census labour force characteristics

Frequency: Quinquennial

Contact: Michel Côté
(613) 951-6896

Census income statistics

Frequency: Quinquennial

Contact: John Gartley
(613) 951-6906

Employment and income surveys

Labour Force Survey

Frequency: Monthly

Contact: Marc Lévesque
(613) 951-4090

Survey of Employment, Payrolls and Hours

Frequency: Monthly

Contact: Sylvie Picard
(613) 951-4090

Help-wanted Index

Frequency: Monthly

Contact: Sylvie Picard
(613) 951-4090

Employment Insurance Statistics Program

Frequency: Monthly

Contact: Sylvie Picard
(613) 951-4090

Major wage settlements

Bureau of Labour Information

(Human Resources

Development Canada)

Frequency: Quarterly

Contact: (819) 997-3117
1 800 567-6866

Labour income

Frequency: Quarterly

Contact: Anna MacDonald
(613) 951-3784

Survey of Labour and Income Dynamics

Frequency: Annual

Contact: Client Services

(613) 951-7355 or

1 888 297-7355

Survey of Financial Security

Frequency: Occasional

Contact: Client Services

(613) 951-7355 or

1 888 297-7355

Survey of Household Spending

Frequency: Annual

Contact: Client Services

(613) 951-7355 or

1 888 297-7355

General social survey

Education, work and retirement

Frequency: Occasional

Contact: Client Services
(613) 951-5979

Social and community support

Frequency: Occasional

Contact: Client Services
(613) 951-5979

Time use

Frequency: Occasional

Contact: Client Services
(613) 951-5979

Pension surveys

Pension Plans in Canada Survey

Frequency: Annual

Contact: Patricia Schembari
(613) 951-9502

Quarterly Survey of Trusteed Pension Funds

Frequency: Quarterly

Contact: Bob Anderson
(613) 951-4034

Special surveys

Survey of Work Arrangements

Frequency: Occasional

Contact: Ernest B. Akyeampong
(613) 951-4624

Adult Education and Training Survey

Frequency: Occasional

Contact: Client Services

(613) 951-7355 or

1 888 297-7355

Graduate Surveys

(Postsecondary)

Frequency: Occasional

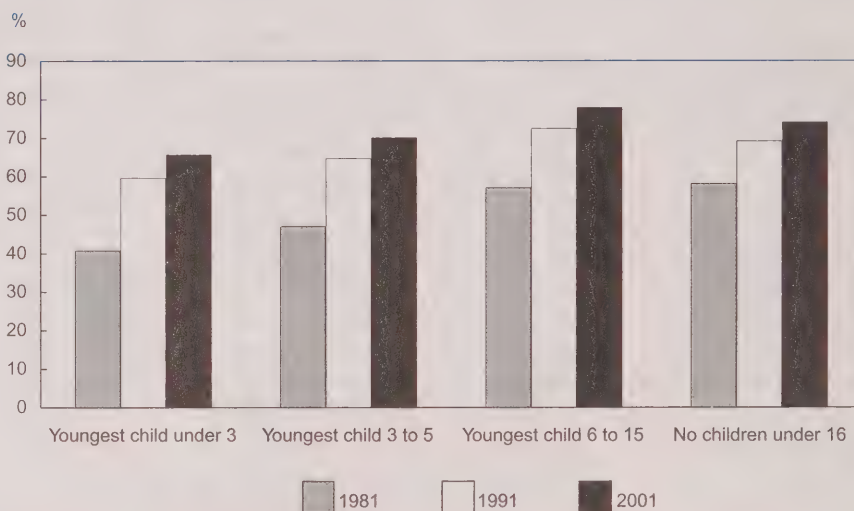
Contact: Client Services
(613) 951-7608

Child-care arrangements

The labour force participation of mothers of young children has increased sharply.

The sharp increase in the number of working mothers over the last 20 years has transformed child care into an issue affecting many families. Should children be taken care of in a home environment or in a community daycare centre or after-school program? Further, what should be done when children are old enough to be left alone for short periods after school, but not for long periods such as summer holidays? The National Longitudinal Survey of Children and Youth allows some insight into these issues.

Between 1981 and 2001, the labour force participation of all women climbed steadily. Those with children under 3 greatly increased their participation, from 41% to 66%. For women with children between 3 and 5, almost



Source: Labour Force Historical Review, 2002

three-quarters were working in 2001, compared with only 47% in 1981. These families likely needed child-care arrangements for a large part of the workday. The labour force participation of women with a youngest child between 6 and 15 increased from 57% in 1981 to 78% in 2001. Some of the child-care burden is relieved when children are in school all day.

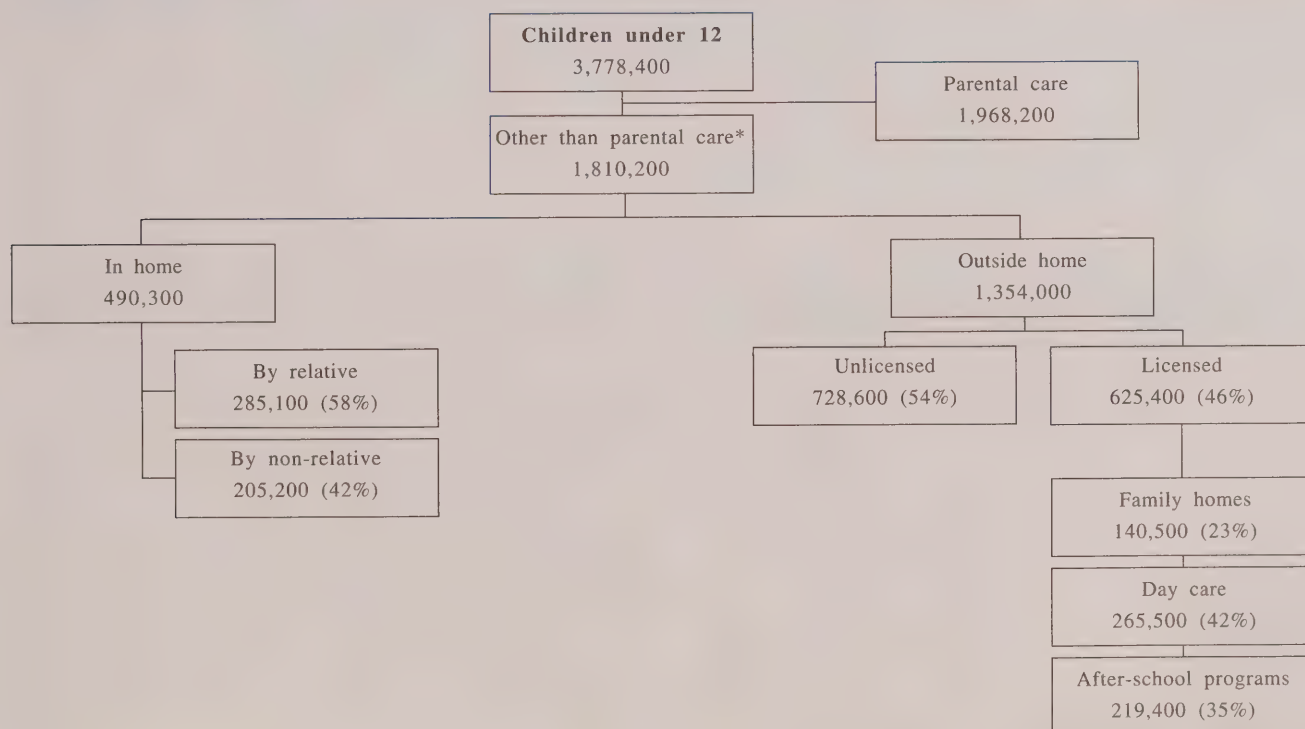
More than half of all children in dual-earner households are in parental care only.

Families use a range of options to meet their needs, including care that is inside and outside the home, formal and informal, paid and unpaid. Choices are based on availability, work schedules, children's schedules and personal preference. Parents with a young child (under 2) may prefer to rely on friends or family, or to juggle their work schedules to care for the child themselves.

In 2000-2001, almost four million children under the age of 12 lived in dual-earner households. Of these children, slightly more than half were cared for exclusively by a parent. Families can often accommodate their situation by opting for flexible work arrange-

ments, shorter work hours, or part-time or seasonal work. Indeed, 70% of such children had at least one parent working something less than full time, full year, while 30% had parents working full-time schedules.

Of the 1.8 million children in non-parental care, almost three times as many were cared for outside rather than inside their own home (1,354,000 versus 490,000). Of those outside, 54% were in unlicensed care such as a babysitter or relative. Of those in licensed care, 42% were in day-care centres, 35% in after-school programs, and 23% in licensed family homes.



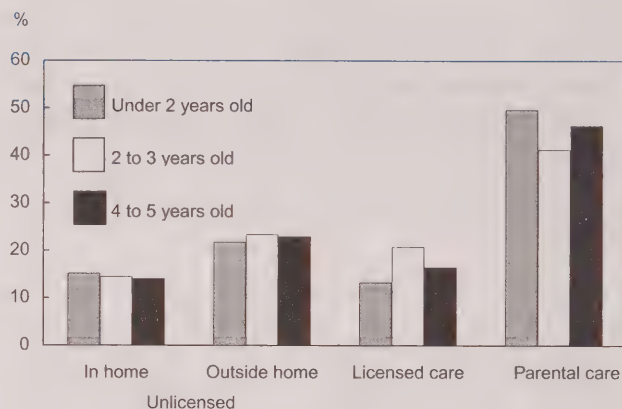
Source: National Longitudinal Survey of Children and Youth, Cycle 4, 2000-2001

* Multiple responses were allowed.

One-half of children under 2 in dual-earner families are cared for by a parent.

Half of children under 2 from dual-earner families were likely to be cared for by a parent. Over one-third were cared for by others in an unlicensed situation, either in the home (15%) or outside (22%). Licensed facilities were used the least for this age group (13%), perhaps because openings for infants in such facilities are scarce. In 1998, only 41% of centres in Canada admitted infants on a full- or part-time basis. Indeed, of the children under 2 in non-parental care, three times more were in unlicensed care (238,000) than in licensed care (85,000).

Children 2 and 3 years of age were still most likely to be cared for by a parent. At ages 4 and 5, children may be in school part of the day, but parental care is still most common.



Source: National Longitudinal Survey of Children and Youth, Cycle 4, 2000-2001

Note: Multiple responses were allowed.

As parents work more hours, children under 6 spend more time in non-parental care.

	Total	Parents combined working hours	
		< 60	60 +
		Hours in care	
All types of care	28.3	18.1	29.0
Unlicensed care			
In home	20.9	10.5	21.7
Out of home	24.9	14.3	25.7
Licensed care	27.1	17.9	27.7

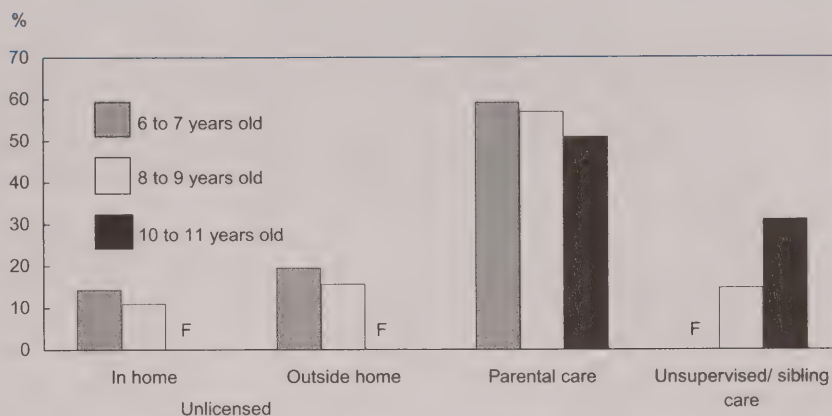
Source: National Longitudinal Survey of Children and Youth, Cycle 4, 2000-2001

Parents who work longer hours may find it difficult to arrange their schedules to care for children. Children whose parents worked combined hours of 60 or more per week spent an average of 29 hours in non-parental care. Those cared for in their own home and with parents working less than 60 hours spent the least time—just under 11 hours per week.

School-aged children are also most likely to be looked after by a parent.

Once children are in school all day, child-care needs change, with many parents finding they can alter their work schedules to supervise their children before and after school.

As with younger children, school-aged children from dual-income families were most often cared for by a parent. Not surprisingly, the youngest of this group (ages 6 and 7) had the highest likelihood of being cared for by a parent (59%); the oldest (10 and 11) were the most likely to be left unsupervised or with a sibling (31%).



Source: National Longitudinal Survey of Children and Youth, Cycle 4, 2000-2001

Note: Multiple responses were allowed.

	Total	Parents combined working hours	
		< 60	60 +
Hours in care			
All types of care	10.9	7.1	11.2
Unlicensed care			
In home	11.7	10.4	11.8
Out of home	9.4	5.1	9.7
Licensed care	9.9	5.6	10.2
Unsupervised/sibling care	6.4	5.0	6.5

Source: National Longitudinal Survey of Children and Youth, Cycle 4, 2000-2001

School-aged children spent far less time in care than younger children (between 5 and 12 hours per week). Most of the time was spent in their own home, regardless of the working hours of their parents.

Data sources and definitions

The National Longitudinal Survey of Children and Youth was developed jointly by Human Resources Development Canada and Statistics Canada. The survey measures the incidence of various factors influencing children's development, both positively and negatively. Held every two years, the survey covers the non-institutionalized population aged under 18 living in Canada's 10 provinces. The sections of the survey pertaining to household dynamics and child-care use were conducted through face-to-face interviews. This study uses the fourth cycle of the survey. The interviews were conducted from September 2000 to May 2001.

The primary unit of observation is the child. Thus, while the survey could answer how many Canadian children were cared for in a licensed daycare centre, it could not answer how many families used licensed daycare centres.

Questions on child-care arrangements were asked of the *person most knowledgeable* (PMK), usually the mother of a child under 12. For summer care arrangements, the age range of the child was from 6 to 13 years. PMKs were asked if they were currently using child care. If so, questions were asked about type of care, licensing, and time spent in care.

The sample consisted of about 25,000 respondents, representing almost five million children. Of those, over 3.7 million were in dual-earner families.

Two-parent families are those whose child's PMK had a spouse or partner living in the same residence, regardless of the biological relationship to the child.

Dual-earner families are two-parent families in which both parents earn an income.

Non-parental care is any type of care used while the child's parents are at work.

Unlicensed care is not regulated by a governmental agency.

Licensed care is regulated by a governmental agency. Included are licensed family homes (children under 12), day-care centres (children under 6), and after-school programs (children aged 6 to 11).

The Labour Force Survey is a monthly household survey, averaged annually, with a sample size of approximately 53,000 households. It provides estimates on the labour force status and demographic characteristics of the non-institutionalized population aged 15 and over living in the 10 provinces.

For further information, contact Donna Calverley, Housing, Family and Social Statistics Division. She can be reached at (613) 951-7017 or donna.calverley@statcan.ca.

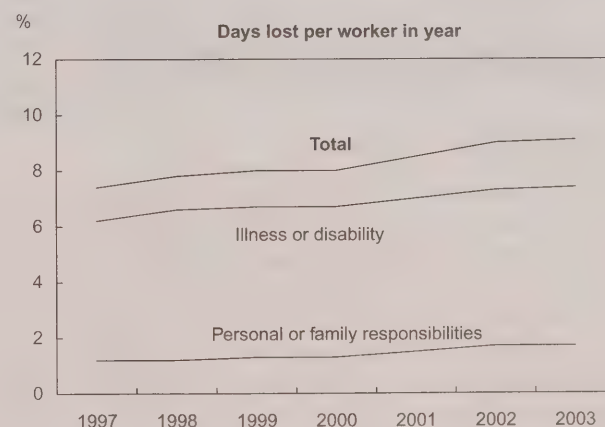
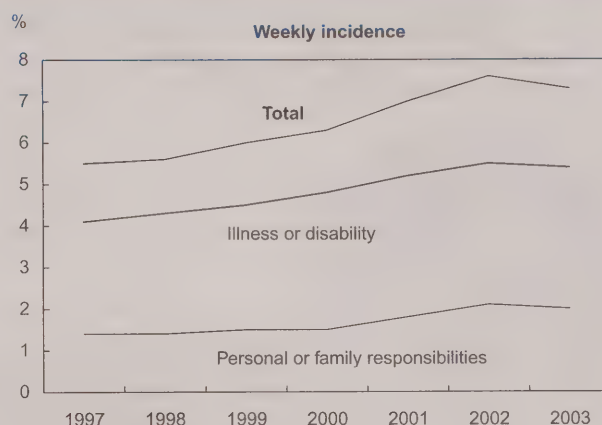
Work absences

Recent trends—1997 to 2003

Estimates from the Labour Force Survey reveal a steady rising trend in both work absence incidence and time lost for personal reasons (own illness or disability, and other personal and family demands) between 1997 and 2002. Several factors accounted for the rising trend: notably, the aging of the workforce; the growing share of women in the workforce, especially mothers with young children; high stress among workers, and the increasing prevalence of generous sick and family-related leave at the workplace.

In an average week in 1997, excluding women on maternity leave, about 5.5% (484,000) of all full-time employees holding one job were absent from work for all or part of the week for personal reasons. By 2002, the figure had risen to 7.6% (771,000) (Table 1). Total work time missed for these reasons also rose steadily, from 3.0% of the weekly scheduled work time in 1997 to 3.6% in 2002. Extrapolated over the full year, work time lost for personal reasons increased from the equivalent of 7.4 days per worker in 1997 to 9.0 days in 2002. Work absences due to own illness or disability as well as those due to other personal or family responsibilities witnessed continuous increases during the period.

The steadily rising trend stalled in 2003. That year, the incidence fell to 7.3%, but the days lost per worker (9.1 days) were a shade higher than the year before, suggesting that absence durations in 2003 were generally longer. Whether this is the beginning of a new trend is too early to speculate.



Source: Labour Force Survey

Demographic differences

In 2003, excluding women on maternity leave, an estimated 7.3% (760,000) of full-time employees missed some work each week for personal reasons: 5.4% for own illness or disability, and 2.0% for personal or family responsibilities (Table 2). As a result, full-time employees lost about 3.6% of their work time each week.

On average, each full-time employee lost 9.1 days over the year for personal reasons (about 7.4 for own illness or disability, and 1.7 for personal or family demands). In total, full-time employees missed an estimated 94.2 million workdays for personal reasons in 2003.

On average, men working full time lost fewer days (8.1 or 6.6 for illness or disability plus 1.5 for personal or family demands) than women full-time employees (10.5 or 8.7 plus 1.9).

The presence of preschool-aged children exerts a strong influence on work absences for personal or family responsibilities, especially for women. In such families, women employed full time lost an average of 4.5 days in 2003; men, 4.0 days.

Workdays missed because of illness or disability tended to rise with age, from an average of 5.0 days for youth (15 to 19) to 10.8 for full-time employees aged 55 to 64.

Industry and sector

Work absence rates differ by sector (public or private) and industry, with almost all of the difference emanating from illness and disability absences (Table 3). Contributing factors include the nature and demands of the job, the male/female composition of the workforce, and the union density—the last being a strong determinant of the presence or lack of paid sick/family leave entitlements.

Full-time employees in the public sector lost more work time in 2003 for personal reasons (about 11.4 days on average) than their private-sector counterparts (8.5 days).

At the major industry level, the most workdays missed were by employees in health care and social assistance (12.8 days), transportation and warehousing (11.4), and public administration (10.7).

The lowest averages were recorded by full-time workers in the professional, scientific and technical industry (5.3 days), and in agriculture (6.2).

Occupation

Contributing factors by occupational absence rates are similar to those for industry (Table 4). Again, as by industry, differences arise mainly from time lost due to illness or disability.

The most days lost in 2003 were recorded for full-time employees in health occupations (13.0); occupations unique to production (11.1); and trades, transport and equipment operators (10.6).

Workers in managerial jobs (5.2), natural and applied sciences (6.1), and culture and recreation (6.9) recorded the fewest days lost.

Union coverage, job status, workplace size and job tenure

Full-time workers who belonged to unions or were covered by collective agreements missed almost 80% more workdays on average in 2003 for personal reasons than their non-unionized counterparts (12.8 versus 7.2) (Table 5).

Workers who considered their jobs to be permanent (and hence more likely to be unionized) lost more workdays (9.2) than those who said their jobs were not permanent (7.7).

Days lost tended to rise with workplace size, increasing from a low of 7.5 in workplaces with fewer than 20 employees (firms more likely to have low union rates) to over 10.0 in workplaces with 100 or more (firms likely to have high union rates).

Days lost tended to rise with job tenure, with almost all the differences arising from illness and disability. They rose from an average of 6.6 days among persons with tenure of up to one year to more than 10.0 days among those with over nine years (the latter group likely being older).

Province and CMA

Work absence levels differed by geographic area (Table 6), with most of the variation again arising from illness or disability.

Full-time employees in Quebec and Saskatchewan lost the most work time in 2003 (10.6 and 10.5 days). Those in Prince Edward Island (7.5) and Alberta (7.9) lost the least.

Among the census metropolitan areas, workers in St. John's, Saint John, Saguenay, Montréal, Sherbrooke, Gatineau, Thunder Bay, Regina, Saskatoon and Victoria lost the most workdays (an average of more than

10 days per full-time worker). Those in Greater Sudbury, Toronto, London and Calgary lost the least time (an average of less than 8.0 days per full-time worker).





For further information, contact Ernest B. Akeyampong, Labour and Household Surveys Analysis Division. He can be reached at (613) 951-4624 or perspectives@statcan.ca.

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Table 1: Absence rates for full-time paid workers by sex, 1997 to 2003, excluding maternity leave

	Incidence*			Inactivity**			Days lost per worker in year†		
	Total	Own illness or disability	Personal or family respon- sibilities	Total	Own illness or disability	Personal or family respon- sibilities	Total	Own illness or disability	Personal or family respon- sibilities
		%	%		days				
Both sexes									
1997	5.5	4.1	1.4	3.0	2.5	0.5	7.4	6.2	1.2
1998	5.6	4.3	1.4	3.1	2.6	0.5	7.8	6.6	1.2
1999	6.0	4.5	1.5	3.2	2.7	0.5	8.0	6.7	1.3
2000	6.3	4.8	1.5	3.2	2.7	0.5	8.0	6.7	1.3
2001	7.0	5.2	1.8	3.4	2.8	0.6	8.5	7.0	1.5
2002	7.6	5.5	2.1	3.6	2.9	0.7	9.0	7.3	1.7
2003	7.3	5.4	2.0	3.6	3.0	0.7	9.1	7.4	1.7
Men									
1997	4.6	3.4	1.2	2.5	2.1	0.4	6.3	5.3	0.9
1998	4.9	3.7	1.2	2.7	2.3	0.4	6.9	5.8	1.0
1999	5.2	3.8	1.3	2.8	2.4	0.4	7.0	5.9	1.1
2000	5.5	4.1	1.4	2.8	2.4	0.4	7.0	5.9	1.1
2001	6.1	4.5	1.6	3.0	2.5	0.5	7.6	6.3	1.3
2002	6.6	4.7	1.9	3.2	2.6	0.6	7.9	6.4	1.6
2003	6.4	4.6	1.8	3.2	2.6	0.6	8.1	6.6	1.5
Women									
1997	6.7	5.0	1.7	3.6	3.0	0.6	9.1	7.6	1.5
1998	6.7	5.1	1.6	3.7	3.1	0.6	9.2	7.7	1.5
1999	7.1	5.3	1.7	3.8	3.2	0.6	9.5	7.9	1.6
2000	7.5	5.7	1.8	3.8	3.1	0.6	9.4	7.8	1.5
2001	8.2	6.1	2.0	3.9	3.2	0.7	9.7	8.0	1.8
2002	8.9	6.5	2.4	4.2	3.4	0.8	10.4	8.6	1.9
2003	8.6	6.4	2.2	4.2	3.5	0.7	10.5	8.7	1.9

Source: Labour Force Survey

* Absent workers divided by total.

** Hours absent divided by hours usually worked.

† Inactivity rate multiplied by working days in year (250).

Table 2: Absence rates for full-time paid workers by sex, age, education and presence of children, 2003, excluding maternity leave

	Incidence*			Inactivity**			Days lost per worker in year†		
	Total	Own illness or disability	Personal or family responsibilities	Total	Own illness or disability	Personal or family responsibilities	Total	Own illness or disability	Personal or family responsibilities
	%			%			days		
Age									
Both sexes	7.3	5.4	2.0	3.6	3.0	0.7	9.1	7.4	1.7
15 to 19	6.4	4.6	1.8	2.6	2.0	0.7	6.6	5.0	1.6
20 to 24	6.6	4.9	1.7	2.7	2.1	0.6	6.7	5.3	1.4
25 to 34	7.5	5.2	2.3	3.4	2.5	0.8	8.4	6.4	2.0
35 to 44	7.5	5.3	2.2	3.7	3.0	0.7	9.2	7.4	1.8
45 to 54	7.0	5.5	1.6	3.8	3.3	0.5	9.5	8.2	1.3
55 to 64	8.2	6.4	1.7	4.9	4.3	0.6	12.3	10.8	1.5
65 and over	5.3	3.4	F	3.0	2.3	F	7.5	5.7	F
Men	6.4	4.6	1.8	3.2	2.6	0.6	8.1	6.6	1.5
15 to 19	6.1	4.5	1.7	2.7	2.1	0.6	6.8	5.3	1.5
20 to 24	6.0	4.4	1.6	2.6	2.0	0.6	6.5	5.1	1.4
25 to 34	6.7	4.6	2.1	3.1	2.3	0.8	7.9	5.8	2.1
35 to 44	6.3	4.4	1.9	3.1	2.5	0.6	7.9	6.3	1.5
45 to 54	6.0	4.6	1.4	3.3	2.8	0.5	8.2	7.0	1.1
55 to 64	7.1	5.6	1.5	4.3	3.8	0.5	10.8	9.6	1.2
65 and over	5.2	3.5	F	3.1	2.4	F	7.7	6.0	F
Women	8.6	6.4	2.2	4.2	3.5	0.7	10.5	8.7	1.9
15 to 19	6.9	4.9	2.0	2.5	1.8	0.7	6.3	4.5	1.8
20 to 24	7.3	5.6	1.7	2.8	2.2	0.6	7.0	5.6	1.4
25 to 34	8.7	6.2	2.5	3.7	2.9	0.8	9.2	7.2	2.0
35 to 44	9.0	6.5	2.6	4.4	3.6	0.8	11.0	8.9	2.1
45 to 54	8.3	6.6	1.7	4.5	3.9	0.6	11.3	9.7	1.6
55 to 64	9.7	7.6	2.0	5.9	5.1	0.7	14.7	12.8	1.9
65 and over	F	F	F	F	F	F	F	F	F
Educational attainment									
Both sexes	7.3	5.4	2.0	3.6	3.0	0.7	9.1	7.4	1.7
Less than Grade 9	8.4	6.6	1.7	5.1	4.6	0.5	12.9	11.6	1.3
Some secondary	8.3	6.3	2.0	4.5	3.8	0.7	11.2	9.5	1.7
High school graduate	7.3	5.5	1.8	3.7	3.1	0.6	9.4	7.8	1.5
Some postsecondary	7.7	5.5	2.2	3.7	2.9	0.8	9.3	7.3	2.0
Postsecondary certificate or diploma	7.6	5.6	2.0	3.8	3.1	0.7	9.5	7.7	1.7
University degree	6.2	4.3	1.9	2.7	2.0	0.7	6.7	5.0	1.6
Presence of children									
Both sexes	7.3	5.4	2.0	3.6	3.0	0.7	9.1	7.4	1.7
With children	7.7	5.3	2.5	3.8	2.9	0.9	9.5	7.3	2.2
Preschool-aged (under 5 years)	9.0	5.0	3.9	4.2	2.5	1.7	10.5	6.4	4.2
5 to 12 years	7.9	5.5	2.4	3.7	3.0	0.6	9.2	7.6	1.6
13 years and over	6.8	5.2	1.6	3.7	3.1	0.5	9.2	7.8	1.4
Without children	7.0	5.5	1.6	3.5	3.0	0.5	8.8	7.5	1.3

Source: Labour Force Survey

* Absent workers divided by total.

** Hours absent divided by hours usually worked.

† Inactivity rate multiplied by working days in year (250).

Table 3: Absence rates for full-time paid workers by industry and sector, 2003, excluding maternity leave

	Incidence*			Inactivity**			Days lost per worker in year†		
	Total	Own illness or disability	Personal or family responsibilities	Total	Own illness or disability	Personal or family responsibilities	Total	Own illness or disability	Personal or family responsibilities
	%			%			days		
All industries	7.3	5.4	2.0	3.6	3.0	0.7	9.1	7.4	1.7
Public employees	8.8	6.8	2.0	4.5	3.8	0.8	11.4	9.4	1.9
Private employees	6.9	5.0	1.9	3.4	2.8	0.6	8.5	6.9	1.6
Goods-producing	7.3	5.2	2.0	3.7	3.0	0.6	9.2	7.6	1.6
Primary	5.7	3.8	1.9	3.1	2.4	0.6	7.7	6.1	1.6
Agriculture	5.9	3.6	2.4	2.5	1.8	0.7	6.2	4.4	1.7
Other	5.6	3.9	1.7	3.3	2.7	0.6	8.3	6.7	1.6
Utilities	8.0	6.1	1.9	4.0	3.3	0.6	9.9	8.3	1.6
Construction	6.4	4.5	1.9	3.4	2.7	0.7	8.5	6.7	1.8
Manufacturing	7.7	5.6	2.1	3.8	3.2	0.6	9.6	8.1	1.5
Durable	7.8	5.6	2.2	3.8	3.2	0.7	9.6	8.0	1.6
Non-durable	7.5	5.6	1.9	3.9	3.3	0.6	9.6	8.2	1.4
Service-producing	7.4	5.4	1.9	3.6	2.9	0.7	9.1	7.4	1.7
Trade	6.6	4.8	1.8	3.2	2.7	0.6	8.0	6.6	1.4
Wholesale	6.6	4.5	2.1	3.0	2.4	0.6	7.5	6.0	1.5
Retail	6.7	5.0	1.7	3.3	2.8	0.5	8.2	6.9	1.4
Transportation and warehousing	7.3	5.9	1.5	4.6	4.0	0.6	11.4	9.9	1.5
Finance, insurance, real estate and leasing	7.3	5.2	2.1	3.4	2.8	0.6	8.6	7.0	1.6
Finance and insurance	7.5	5.4	2.1	3.5	3.0	0.6	8.8	7.4	1.4
Real estate and leasing	6.6	4.5	2.1	3.1	2.3	0.8	7.6	5.7	2.0
Professional, scientific and technical	6.0	3.8	2.3	2.1	1.5	0.6	5.3	3.8	1.5
Business, building and support services	7.6	5.6	2.0	3.5	2.8	0.7	8.7	7.0	1.7
Educational services	7.9	6.0	1.9	3.8	3.0	0.8	9.4	7.6	1.9
Health care and social assistance	9.2	7.2	2.0	5.1	4.3	0.9	12.8	10.7	2.1
Information, culture and recreation	6.4	4.7	1.7	2.9	2.4	0.6	7.3	5.9	1.4
Accommodation and food services	5.8	4.1	1.6	3.0	2.3	0.7	7.6	5.9	1.7
Other services	6.4	4.4	2.0	2.8	2.1	0.6	6.9	5.3	1.6
Public administration	9.0	6.7	2.4	4.3	3.4	0.9	10.7	8.5	2.2
Federal	11.0	7.6	3.3	4.7	3.3	1.3	11.7	8.4	3.3
Provincial	8.0	6.3	1.7	3.8	3.2	0.6	9.6	8.0	1.6
Local, other	7.5	5.7	1.8	4.2	3.6	0.6	10.4	9.0	1.4

Source: Labour Force Survey

* Absent workers divided by total.

** Hours absent divided by hours usually worked.

† Inactivity rate multiplied by working days in year (250).

Table 4: Absence rates for full-time paid workers by occupation, 2003, excluding maternity leave

	Incidence*			Inactivity**			Days lost per worker in year†		
	Total	Own illness or disability	Personal or family responsibilities	Total	Own illness or disability	Personal or family responsibilities	Total	Own illness or disability	Personal or family responsibilities
		%			%		days		
All occupations	7.3	5.4	2.0	3.6	3.0	0.7	9.1	7.4	1.7
Management	4.9	3.2	1.7	2.1	1.5	0.6	5.2	3.7	1.5
Business, finance and administrative	8.1	5.8	2.3	3.7	3.0	0.7	9.1	7.4	1.8
Professional	6.6	4.5	2.1	2.7	2.1	0.6	6.7	5.3	1.4
Administrative	7.8	5.3	2.5	3.4	2.6	0.8	8.5	6.4	2.1
Clerical	8.6	6.4	2.2	4.0	3.4	0.7	10.1	8.4	1.7
Natural and applied sciences	6.3	4.3	2.0	2.4	1.9	0.5	6.1	4.8	1.3
Health	8.9	7.2	1.8	5.2	4.4	0.8	13.0	11.0	2.0
Professional	5.5	3.4	F	2.6	1.8	F	6.6	4.5	F
Nursing	9.8	8.1	1.7	6.2	5.3	0.9	15.4	13.1	2.3
Technical	7.8	5.9	1.9	4.2	3.5	0.7	10.5	8.7	1.8
Support staff	10.3	8.8	1.5	6.1	5.4	0.7	15.3	13.6	1.7
Social and public service	7.7	5.7	2.0	3.6	2.8	0.8	8.9	6.9	2.0
Legal, social and religious	8.2	6.1	2.1	3.8	3.0	0.7	9.4	7.6	1.9
Teachers and professors	7.3	5.4	1.9	3.4	2.6	0.8	8.5	6.4	2.1
Secondary and elementary	8.5	6.6	1.9	4.1	3.2	0.9	10.3	7.9	2.4
Other	4.4	2.7	1.7	1.8	1.3	0.5	4.5	3.1	1.4
Culture and recreation	7.0	5.3	1.7	2.8	2.3	0.5	6.9	5.7	1.3
Sales and service	7.0	5.2	1.8	3.6	2.9	0.7	9.0	7.3	1.7
Wholesale	5.6	3.7	1.9	2.4	1.8	0.6	6.0	4.6	1.4
Retail	6.9	5.3	1.5	3.4	2.8	0.5	8.4	7.1	1.3
Food and beverage	6.1	4.4	1.7	3.4	2.8	0.7	8.6	7.0	1.6
Protective services	6.1	4.7	1.5	3.6	2.9	0.7	9.0	7.2	1.8
Childcare and home support	9.4	6.6	2.8	4.9	3.8	1.1	12.2	9.5	2.7
Travel and accommodation	7.8	5.9	1.9	4.1	3.4	0.7	10.2	8.4	1.9
Trades, transport and equipment operators	7.5	5.6	1.8	4.2	3.6	0.6	10.6	9.0	1.5
Contractors and supervisors	5.5	3.7	1.8	2.9	2.2	0.7	7.3	5.6	1.7
Construction trades	7.8	5.6	2.2	4.4	3.7	0.8	11.1	9.2	1.9
Other trades	7.2	5.4	1.8	3.7	3.2	0.5	9.3	7.9	1.3
Transport equipment operators	7.6	6.0	1.5	4.9	4.3	0.6	12.3	10.7	1.5
Helpers and labourers	8.3	6.5	1.9	4.7	4.0	0.7	11.7	10.0	1.7
Occupations unique to primary industry	5.6	3.9	1.7	3.4	2.7	0.7	8.4	6.8	1.7
Occupations unique to production	8.5	6.3	2.2	4.4	3.7	0.7	11.1	9.3	1.8
Machine operators and assemblers	8.2	6.1	2.1	4.3	3.6	0.7	10.8	9.1	1.7
Labourers	9.7	7.3	2.5	5.1	4.0	1.0	12.6	10.1	2.5

Source: Labour Force Survey

* Absent workers divided by total.

** Hours absent divided by hours usually worked.

† Inactivity rate multiplied by working days in year (250).

Table 5: Absence rates for full-time paid workers by workplace size, job tenure, job status and union coverage, 2003, excluding maternity leave

	Incidence*			Inactivity**			Days lost per worker in year†		
	Total	Own illness or disability	Personal or family responsibilities	Total	Own illness or disability	Personal or family responsibilities	Total	Own illness or disability	Personal or family responsibilities
	%			%			days		
Workplace size									
Both sexes	7.3	5.4	2.0	3.6	3.0	0.7	9.1	7.4	1.7
Under 20 employees	6.3	4.4	1.9	3.0	2.4	0.6	7.5	5.9	1.5
20 to 99 employees	7.4	5.4	2.0	3.6	3.0	0.7	9.1	7.4	1.7
100 to 500 employees	8.1	6.0	2.1	4.1	3.4	0.7	10.3	8.5	1.8
Over 500 employees	8.3	6.4	1.9	4.3	3.6	0.7	10.7	9.0	1.7
Job tenure									
Both sexes	7.3	5.4	2.0	3.6	3.0	0.7	9.1	7.4	1.7
1 to 12 months	6.2	4.4	1.8	2.6	2.1	0.6	6.6	5.1	1.4
Over 1 to 5 years	7.3	5.2	2.1	3.4	2.7	0.7	8.6	6.8	1.8
Over 5 to 9 years	7.9	5.7	2.1	4.0	3.2	0.8	10.0	8.1	1.9
Over 9 to 14 years	7.8	5.9	1.9	4.1	3.4	0.7	10.3	8.5	1.8
Over 14 years	7.7	6.0	1.7	4.3	3.7	0.6	10.7	9.3	1.4
Job status									
Both sexes	7.3	5.4	2.0	3.6	3.0	0.7	9.1	7.4	1.7
Permanent	7.4	5.5	2.0	3.7	3.0	0.7	9.2	7.6	1.7
Non-permanent	6.4	4.6	1.9	3.1	2.4	0.7	7.7	6.1	1.6
Union coverage									
Both sexes	7.3	5.4	2.0	3.6	3.0	0.7	9.1	7.4	1.7
Union member or covered by collective agreement	9.1	7.2	1.9	5.1	4.4	0.8	12.8	10.9	1.9
Non-unionized	6.4	4.4	2.0	2.9	2.3	0.6	7.2	5.7	1.6

Source: Labour Force Survey

* Absent workers divided by total.

** Hours absent divided by hours usually worked.

† Inactivity rate multiplied by working days in year (250).

Table 6: Absence rates for full-time paid workers by province, region and census metropolitan area (CMA), 2003, excluding maternity leave

	Incidence*			Inactivity**			Days lost per worker in year†		
	Total	Own illness or disability	Personal or family responsibilities	Total	Own illness or disability	Personal or family responsibilities	Total	Own illness or disability	Personal or family responsibilities
		%	%		days				
Province and region									
Both sexes	7.3	5.4	2.0	3.6	3.0	0.7	9.1	7.4	1.7
Atlantic	7.4	5.7	1.7	3.9	3.3	0.6	9.8	8.3	1.5
Newfoundland and Labrador	7.0	5.5	1.5	4.1	3.6	0.6	10.3	8.9	1.5
Prince Edward Island	6.4	4.7	1.6	3.0	2.5	0.5	7.5	6.3	1.2
Nova Scotia	7.6	5.7	1.9	3.9	3.2	0.7	9.7	8.0	1.7
New Brunswick	7.6	5.9	1.7	4.0	3.5	0.6	10.1	8.6	1.4
Quebec	7.9	6.0	1.9	4.2	3.6	0.6	10.6	9.1	1.5
Ontario	7.1	5.0	2.1	3.3	2.6	0.7	8.2	6.4	1.8
Prairies	7.3	5.2	2.0	3.4	2.7	0.7	8.6	6.9	1.7
Manitoba	7.9	5.9	2.0	3.7	3.1	0.6	9.3	7.8	1.6
Saskatchewan	8.2	6.2	2.0	4.2	3.5	0.7	10.5	8.6	1.8
Alberta	6.8	4.8	2.0	3.1	2.4	0.7	7.9	6.1	1.8
British Columbia	7.2	5.5	1.7	3.9	3.2	0.7	9.6	7.9	1.7
CMA									
Both sexes	7.3	5.4	2.0	3.6	3.0	0.7	9.1	7.4	1.7
All CMAs	7.3	5.4	2.0	3.5	2.8	0.7	8.8	7.1	1.7
St. John's	7.8	6.0	1.7	4.2	3.7	0.5	10.4	9.1	1.3
Halifax	7.3	5.5	1.9	3.3	2.6	0.7	8.1	6.5	1.7
Saint John	8.6	6.7	1.9	4.4	3.8	0.6	10.9	9.4	1.5
Saguenay	7.5	6.3	F	4.5	4.1	F	11.3	10.3	F
Québec	6.9	5.3	1.6	3.5	2.9	0.6	8.8	7.2	1.6
Montréal	8.2	6.1	2.1	4.2	3.6	0.6	10.5	9.0	1.5
Trois-Rivières	7.1	5.4	F	4.0	3.3	F	9.9	8.2	F
Sherbrooke	7.5	5.7	F	4.3	3.7	F	10.6	9.3	F
Gatineau	9.6	7.2	2.4	4.8	4.1	0.6	11.9	10.3	1.6
Ottawa	8.0	5.6	2.3	3.3	2.5	0.8	8.2	6.3	1.9
Greater Sudbury	6.3	4.5	F	3.1	2.5	F	7.8	6.3	F
Toronto	6.9	4.8	2.0	3.1	2.4	0.7	7.8	6.0	1.8
Hamilton	6.9	5.0	2.0	3.5	2.8	0.7	8.7	7.0	1.7
St. Catharines-Niagara	8.5	6.1	2.3	4.0	3.2	0.8	9.9	7.9	2.0
London	6.7	4.7	2.0	3.2	2.4	0.7	7.9	6.1	1.8
Windsor	7.3	4.9	2.4	3.5	2.7	0.8	8.7	6.7	2.0
Kitchener-Waterloo	7.1	5.0	2.1	3.2	2.5	0.7	8.0	6.2	1.7
Oshawa	7.7	5.7	2.0	3.9	3.2	0.7	9.7	7.9	1.8
Thunder Bay	8.8	6.4	F	4.8	3.8	F	12.0	9.5	F
Winnipeg	7.9	6.0	1.9	3.6	3.0	0.5	8.9	7.5	1.4
Regina	8.5	6.4	2.1	4.0	3.3	0.7	10.1	8.3	1.8
Saskatoon	8.0	6.3	1.7	4.1	3.5	0.6	10.2	8.8	1.4
Calgary	6.5	4.5	2.1	2.7	2.1	0.7	6.8	5.2	1.7
Edmonton	6.9	5.0	1.9	3.3	2.6	0.7	8.2	6.5	1.7
Vancouver	6.8	5.1	1.7	3.5	2.9	0.7	8.9	7.1	1.7
Victoria	8.3	6.4	1.9	4.2	3.5	0.7	10.5	8.8	1.7
Non-CMAs	7.3	5.3	1.9	3.9	3.2	0.6	9.7	8.0	1.6
Urban centres	7.6	5.7	1.8	4.0	3.3	0.7	9.9	8.2	1.7

Source: Labour Force Survey

* Absent workers divided by total.

** Hours absent divided by hours usually worked.

† Inactivity rate multiplied by working days in year (250).

Data source and definitions

The data in this article are annual averages from the **Labour Force Survey** (LFS). They refer to full-time employees holding only one job. Part-time, self-employed and unpaid family workers are excluded because they generally have more opportunity to arrange their work schedules around personal or family responsibilities. Multiple jobholders, too, are excluded because it is not possible using LFS data to allocate time lost, or the reason for it, to specific jobs. Women on maternity leave are also excluded. Some human resource practitioners exclude persons on long-term illness or disability leave (exceeding one year) from their attendance management statistics. Such persons are, however, included in Statistics Canada's work absence estimates if they count themselves as employed (that is, they continue to receive partial or full pay from their employer). In 2003, the number of employed persons on such long-term illness or disability leave averaged only 23,000 in a typical week. Their exclusion would have reduced the weekly work absence incidence for illness or disability from 5.4% to 5.2%, the inactivity rate from 3.0% to 2.8%, and days lost per worker that year from 7.4 to 6.9.

Personal reasons for absence are split into two categories: 'own illness or disability' and 'personal or family responsibilities' (caring for own children, caring for elder relative, and other personal or family responsibilities). Absences for these two reasons represented about 26% of all time lost by full-time paid workers each week in 2003. Vacations, which accounted for about 40% of total time away from work, are not counted in this study, nor are statutory holidays, which represented 17%. Maternity leave represented 9% and other reasons, 7%.

The **incidence of absence** is the percentage of full-time paid workers reporting some absence in the reference week. In calculating incidence, the length of work absence—whether an hour, a day, or a full week—is irrelevant.

The **inactivity rate** shows hours lost as a proportion of the usual weekly hours of full-time paid workers. It takes into account both the incidence and length of absence in the reference week.

Days lost per worker are calculated by multiplying the inactivity rate by the estimated number of working days in the year (250).

Reasons for work absences in the LFS

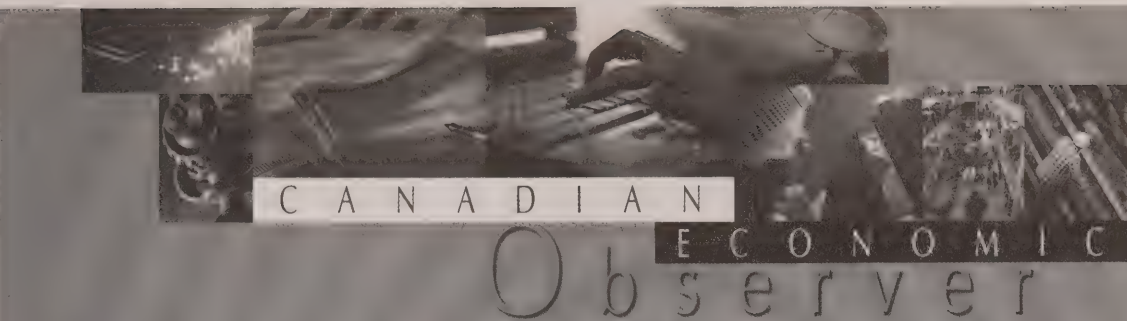
The LFS sets out the following reasons for being away from work:

- own illness or disability
- caring for own children
- caring for elder relative (60 years or older)
- maternity leave (women only)
- other personal or family responsibilities
- vacation
- labour dispute (strike or lockout)
- temporary layoff due to business conditions
- holiday (legal or religious)
- weather
- job started or ended during week
- working short time (because of material shortages, plant maintenance or repair, for instance)
- other

As normally published, personal or family responsibilities consist of caring for own children, caring for elder relative, and other personal or family responsibilities.

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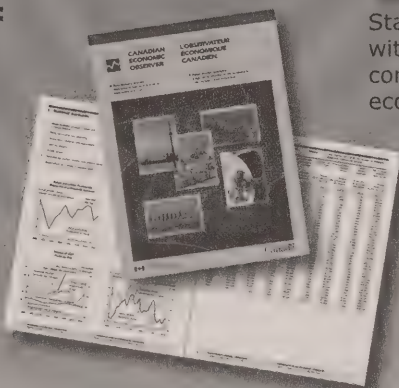
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AUTUMN 2004

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■ Articles

7 Immigrants: Settling for less?

Diane Galarneau and René Morissette

The 1990s saw a significant increase in the education level of new immigrants. However, new immigrants often face problems when looking for a job in Canada, including non-recognition of their credentials, their education level, or their experience abroad. This increases the probability of those with a university degree working in an occupation below their education level.

19 Shifts in consumer spending

Tarek M. Harchaoui and Faouzi Tarkhani

Consumer spending accounts for almost 60% of Canada's gross domestic product and plays a key role in supporting the economy. Over the last 20 years, consumer spending and asset holdings have shifted dramatically, reflecting changes in taste, lifestyle and the economy. These shifts have helped to alter the economic landscape.

24 Saving for postsecondary education

Sophie Lefebvre

This study looks at the decision of parents to save, as well as the amounts saved, for the future education of children aged under 19 in 2002. A model is used to estimate cumulative parental savings, taking into consideration characteristics of the family and the child, aspirations and involvement of parents, awareness of saving incentive programs, and expectations about grant programs.

32 Housing costs of elderly families

Raj K. Chawla and Ted Wannell

Concerns about the property tax burden for seniors often relate to the long period that many have lived in their homes. The recent surge in residential housing prices has in many cities been greatest in mature neighbourhoods with concentrations of older homeowners. Thus a general rise in mill rates and a relatively high increase in assessed value can create a double burden for many elderly homeowners. This article examines housing costs within the context of income and assets, focusing on elderly homeowners but including younger families and renters for comparison. The low-income dimension is also explored.

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39 The union movement in transition

Ernest B. Akyeampong

Although union membership has increased over the past several decades, it has not kept pace with employment. As a result, the proportion of employees belonging to a union has changed little. At the same time, the union movement has undergone several notable transformations. The proportion of women has risen steadily. The membership balance has shifted from goods-producing to service industries. Public-sector unions have surpassed private-sector ones. And inroads have been made among part-time workers and in smaller workplaces.

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Highlights

In this issue

■ Immigrants: Settling for less? ... p. 7

- At least one in four recent immigrants with a university degree who was employed between 1991 and 2001 had a job requiring no more than a high school education. This was twice the proportion of only 12% among native-born Canadians.
- Recent immigrants most likely to have a job requiring no more than a high school education in 2001 came from South or Southeast Asia, had a mother tongue other than English or French, were members of a visible minority, and were women. Those least likely to have such jobs were from North America, Northern or Western Europe, or Oceania; had a master's degree or doctorate; were trained in applied sciences; and had English as their mother tongue.
- Not only do recent immigrants in low-education jobs have lower earnings than those in university-level jobs, but they also earn less than their Canadian-born counterparts working in the same situation. In 2000, recent immigrants employed full time in low-education jobs had weekly earnings at least 20% lower than their Canadian-born counterparts.
- The difficulty in obtaining university-level jobs is not necessarily a short-term phenomenon. Even after more than 10 years in Canada, at least 21% of employed, university-educated immigrants who arrived between 1985 and 1989 had a low-education job in 2001.

■ Shifts in consumer spending ... p. 19

- Consumer spending, which accounts for almost 60% of GDP, has shifted markedly over the last 20 years, reflecting changes in lifestyle and the economy.
- Between 1981 and 2000, consumer spending grew 2.6% annually, slightly less than GDP. Consumer spending remained strong even during the slowdown of 2001.
- Higher incomes and wealth resulted in higher spending on discretionary items. Between 1981 and 2000, much of the rise in discretionary spending was for financial services, with mutual funds becoming the fastest-growing item in the consumer household basket.
- Homeownership also became more important, accounting for 47% of non-financial household assets in 2000, up from 41% in 1981.
- Technological innovation resulted in a plethora of new products and services whose share grew 6%. Consumer spending on health and education also increased rapidly.
- These shifts in consumer spending were accompanied by a fall in the personal savings rate and a rise in consumer debt.

■ Saving for postsecondary education ... p. 24

- In 2002, half of children under 19 had an average of \$8,600 put aside for them by their parents for postsecondary education.
- Higher-income families saved more than lower-income families, but half the difference was explained by factors other than income.
- Children in mortgage-free homes had greater savings than those from mortgaged or rented homes.
- Regardless of income level, children whose parents were aware of the Canada Education Savings Grant had significantly more savings than those whose parents were unaware of the program.
- Parents who expected their child to receive grants for postsecondary education based on financial need saved significantly less. Almost a third of all children under 19 had parents who expected them to receive such assistance, even though it is likely that many will not.

■ Housing costs of elderly families ... p. 32

- In 1999, homeownership families whose major income recipient was 65 or over had lived in their home for an average of 25 years, and 90% had completely paid off their mortgage.
- Because of long tenure, appreciation accounted for 60% of the equity of senior homeowners, compared with 46% for homeowners with a major income recipient between 45 and 64 and 29% for those under 45. As a result, the average senior homeowner was paying about \$1,000 per year in property taxes on appreciation alone.
- Senior homeowners had accumulated more than three times the wealth of senior renters (double if home equity is excluded). As well, senior homeowners had nearly twice the income of their renting counterparts (\$41,000 compared with \$23,000).

- Senior renters with low incomes paid 43% of their income to the landlord. Senior homeowners with low incomes who were mortgage-free paid an average of 12% of their income for property taxes; those who still carried a mortgage paid an average of 56% in mortgage payments and property taxes.

■ The union movement in transition ... p. 39

- Union ranks rose from 2.8 million in 1977 to just over 4 million in 2003. However, this 43% growth did not keep pace with employment increases, resulting in a unionization rate (or density) that changed little.
- The biggest and most profound transformation in union membership in recent decades lies in the mix of men and women. From a mere 12% in 1977, the share of women rose steadily to nearly half (48%) in 2003.
- Union membership declined in the goods sector and increased in the service sector. In terms of density, the gap between the goods sector and the service sector in 1987 (40% versus 31%) had almost disappeared by 2003 (31% versus 30%).
- Between 1997 and 2003, union density increased in the already heavily unionized public sector (2.3 percentage points), but fell slightly in the private sector. By industry, the biggest gains occurred in public administration and construction.
- During this same period, union density rose in smaller workplaces, and among part-time workers, non-permanent employees, and persons with short job tenure. The rate fell in larger workplaces, and among full-time workers, persons in permanent jobs, and those with tenure longer than five years.

■ What's new?

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Immigrants: Settling for less?

Diane Galarneau and René Morissette

During the 1990s, immigration policy favoured the admission of immigrants with higher education, leading to a significant increase in the education level of recent immigrants (see *Definitions*). In 2001, more than 40% of recent immigrants had at least a bachelor's degree, compared with 22% in 1991. As a consequence, they accounted for 6% of all persons in Canada with a university degree in 2001, up from 4% in 1991.

One of the first hurdles for immigrants is finding a job in an unfamiliar labour market. Among persons aged 25 to 54 with a university degree, unemployment for recent immigrants has consistently been at least triple the rate for the Canadian-born—in 2001, the rates were 7.4% versus 2.3% for men and 10.5% versus 2.7% for women. The difficulty recent immigrants face in finding a job has been attributed to several factors: non-recognition of credentials, education level or experience abroad (Green and Worswick 2002; Ferrer and Riddell 2003); poorer quality of education in some countries (Sweetman 2003); language disadvantage; weak social networks; and lack of information regarding the Canadian job market. These factors increase the probability that recent immigrants with a university degree will work in an occupation below their education level.

How has this phenomenon evolved over the past decade? How does the proportion of highly educated recent immigrants in low-education jobs compare with that of native-born Canadians? Which immigrants are most likely to be in these jobs and why? What are the earnings consequences? Drawing on the 1991, 1996 and 2001 censuses, this article examines recent immigrants aged 25 to 54 with a university degree who held jobs requiring no more than a high school education (see *Definitions*).

Diane Galarneau is with the Labour and Household Surveys Analysis Division. She can be reached at (613) 951-4626 or diane.galarneau@statcan.ca. René Morissette is with the Business and Labour Market Analysis Division. He can be reached at (613) 951-3608 or rene.morissette@statcan.ca.

Recent immigrants with a university degree

The profile of recent immigrants with a university degree has changed greatly in recent decades. In 2001, some 60% or more of those aged 25 to 54 held a bachelor's degree, belonged to a visible minority, or came from an Asian country—particularly South Asia¹ (Table 1). Some 21% of recent immigrant men with a degree in 2001 were from South Asia compared with only 11% in 1991.

Changes in the demographic profile of recent immigrants may have affected their representation in low-education jobs. For example, the proportion of highly educated recent immigrants with a mother tongue other than English or French increased 10 percentage points between 1991 and 2001. While mother tongue is an imperfect indicator of linguistic skills, this change may have increased the probability of recent immigrants working in an occupation requiring an education level lower than their own (the mismatch rate).²

Also, recent immigrants with a university degree tended to be older in 2001 than in 1991. For example, 64% of recent immigrant men were 35 or over in 2001, compared with only 56% in 1991. If it is increasingly difficult to gain recognition for work experience acquired abroad, the growing proportion of relatively older immigrants (with longer experience abroad) could have tended to increase their mismatch rate.

Lastly, the proportion of recent immigrants with a degree in engineering, mathematics or computer science increased during the last decade. Together, these fields of study accounted for 59% of recent immigrant men with degrees in 2001, compared with 44% in 1991. Among women, the proportions were more modest but also rose, from 15% in 1991 to 26% in 2001. Insofar as demand for the skills obtained in these fields of study is showing substantial growth, these changes could have tended to lower the mismatch rates of recent immigrants.

Table 1: Recent immigrant workers aged 25 to 54 with a university degree

	Men			Women		
	1991	1996	2001	1991	1996	2001
	Number					
Total	27,400	45,000	69,100	20,000	36,500	51,100
Mother tongue	%					
English	22	16	12	26	21	15
French	4	4	4	3	3	4
Other	74	80	84	71	76	81
Age						
25 to 34	44	40	35	53	50	44
35 to 44	43	43	45	39	38	42
45 to 54	13	16	19	9	13	14
Education						
Bachelor's	66	66	63	76	77	74
Master's	25	24	27	21	20	22
Doctorate	9	10	9	4	3	4
Class of worker						
Self-employed	11	15	11	7	9	9
Employed	89	85	89	93	91	91
Field of study						
Arts and sciences	47	42	35	71	67	61
Teaching and fine arts	5	5	3	15	15	11
Humanities	8	6	5	12	12	12
Social sciences	11	10	7	15	13	12
Commerce	19	16	15	20	21	18
Other	5	5	5	7	6	6
Applied sciences	44	50	59	15	20	26
Engineering and applied sciences	31	33	38	6	9	13
Mathematics and computer science	14	17	20	9	11	14
Health	9	8	6	14	13	13
Region of origin						
North America	6	3	2	10	6	3
Central and South America, and the Caribbean	8	5	4	6	6	5
Northern and Western Europe	9	7	5	8	6	6
Southern and Eastern Europe	14	18	19	14	18	20
Africa	10	10	10	6	5	6
South Asia	11	15	21	10	11	16
Southeast Asia	12	11	8	22	24	16
East Asia	21	22	23	17	20	22
West Asia	9	7	7	5	5	5
Oceania and other	1	1	0	1	1	0
Visible minority						
Yes	68	66	69	65	67	67
No	32	34	31	35	33	33

Source: Census of Population

Education–job mismatch rate

In 2001, the proportion of recent immigrants with a university degree working in low-education jobs was 25% for men and 38% for women—a level comparable to 1991 (Table 2). However, the rate increased between 1991 and 1996, from 27% to 32% for men and from 41% to 47% for women. This rise coincided with a major influx of immigrants. From 1990 to 1994, Canada received an average of 237,000 immigrants annually, compared with 138,000 between 1985 and 1989 (Chart).

The comparability of recent immigrant mismatch rates in 1991 and 2001 might be explained by two factors with opposite effects. First, an increase in the proportion of recent immigrants among workers holding a bachelor's degree may have exerted upward pressure on the rate, since more skilled immigrants were entering the labour market to fill positions requiring the same skill level. At the same time, the increased demand for highly educated workers, often cited as a characteristic of the knowledge-based economy (Berman, Bound and Machin 1998) may have exerted downward pressure, since a sizeable share of these skilled workers could be absorbed.

A higher mismatch rate among immigrants

Whereas 25% of recent immigrant men with a university degree had low-education jobs in 2001, the percentage for their Canadian-born counterparts was only 12%. The corresponding figures for women were 38% and 13%. Recent immigrants were therefore at least twice as likely to be in low-education jobs, a phenomenon observed throughout the decade.

Definitions

Occupational classification and skill levels

The National Occupational Classification comprises more than 500 occupations. (The detailed occupations are available on request.) The Essential Skills Research Project (ESRP), by Human Resources Development Canada, made it possible to estimate the skill level of each occupation. This assigned code reflects both the education level usually required in the labour market and some criteria covering experience, specific training and responsibility related to health and safety (as in the case of police officers and nurses). The skill levels are:

- some university education
- a college diploma, certificate, or apprenticeship training
- no more than a high school diploma.

Managers are not included, given the great diversity of their experience and education level. For more information, refer to www15.hrdc-drhc.gc.ca/english/general/esrp.asp.

The skill levels attributed to occupations date from the early 1990s, so the actual skill level of some occupations in 2001 may differ slightly. For example, some occupations requiring a college diploma (or certificate) in 1991 may have required a university degree in 2001. Similarly, some occupations that previously required high school graduation may now require a college diploma. If these changes are not taken into account, the mismatch rate of persons in low-education jobs in 2001 might be overestimated, biasing upward the change between 1991 and 2001.

For this reason, the focus is exclusively on employed persons who have at least a bachelor's degree but are working in an occupation that requires at most a high school education. This avoids overestimating changes in the rate. It is unlikely that occupations that required high school or less in 1991 now require a bachelor's degree or even more.

Sample selection

This study uses census information from the 20% of the population that provided employment and earnings details. The initial sample consisted of persons aged 25 to 54 with a university degree (bachelor's or above) who held a job (as an employee or self-employed) during the census reference week. This was used to calculate the **mismatch rate**:

In jobs requiring at most a high school education

Total sample

To analyze earnings, the sample was restricted to those of persons who held a paid job, and during the year preceding the census:

- received wages or salaries
- worked at least one week, primarily full time
- had no self-employment income.

To verify the pattern of change in rates over time, a different definition is used. The numerator is employed persons aged 25 to 54 with at least a bachelor's degree working in occupations requiring a college degree, apprenticeship training or high school education or less. The denominator is employed persons aged 25 to 54 with at least a bachelor's degree. While the incidence is greater using this definition, the trends in the two rates are comparable. For Canadian-born workers and recent immigrants, both rates rose between 1991 and 1996 and declined between 1996 and 2001, but the 2001 rate showed little change from the 1991 rate.

	1991	1996	2001
University graduate, in job requiring less than university			
Men			
Canadian-born	30	34	33
Recent immigrants	50	54	47
Other immigrants	32	38	39
Women			
Canadian-born	30	34	33
Recent immigrants	64	67	61
Other immigrants	42	45	47
University graduate, in job requiring secondary school or less			
Men			
Canadian-born	11	14	12
Recent immigrants	27	32	25
Other immigrants	13	17	18
Women			
Canadian-born	13	17	13
Recent immigrants	41	47	38
Other immigrants	21	25	24

Source: Census of Population

Recent immigrants: For the 1991 census, recent immigrants are people who entered Canada between 1985 and 1989. For 1996, they entered between 1990 and 1994, and for 2001, between 1995 and 1999. Immigrants who entered during the census year or the year immediately preceding were excluded to facilitate comparison with earlier studies (Grant 1999; Frenette and Morissette 2003).

Unemployment rate: Proportion of the labour force unemployed during the census reference week.

Mother tongue: First language learned at home in childhood and still understood.

Average weekly earnings: The sum of wages and salaries reported for the calendar year preceding the census (excluding any income from self-employment or agricultural work), divided by the number of weeks worked during the year.

Table 2: University graduate visible minorities in low-education jobs

	Men			Women		
	1991	1996	2001	1991	1996	2001
	%					
Recent immigrants						
25 to 54	27	32	25	41	47	38
Visible minority	32	39	29	49	53	45
Other	17	19	16	25	33	25
25 to 34	28	34	22	41	47	37
Visible minority	32	40	26	48	54	43
Other	20	21	12	25	31	23
35 to 44	25	30	24	41	45	39
Visible minority	31	38	28	50	51	46
Other	14	16	16	27	34	25
45 to 54	28	35	33	40	50	43
Visible minority	34	41	38	55	57	50
Other	16	24	23	20	37	30
Canadian-born						
25 to 54	11	14	12	13	17	13
Visible minority	14	21	14	20	24	18
Other	11	14	12	13	17	13
25 to 34	15	20	15	17	23	16
Visible minority	16	26	15	23	27	20
Other	15	20	15	17	22	16
35 to 44	10	12	11	11	14	13
Visible minority	12	13	13	14	18	16
Other	10	12	11	11	14	13
45 to 54	6	9	10	8	11	11
Visible minority	9	14	13	9	14	11
Other	6	9	10	8	11	11

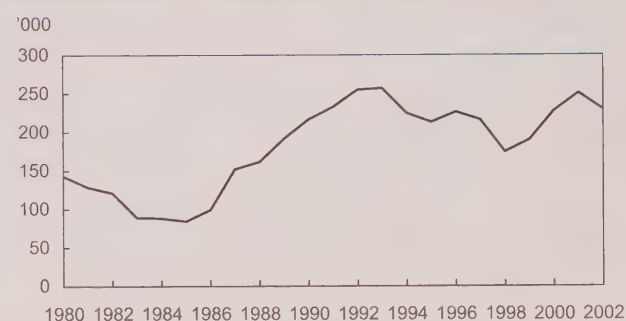
Source: Census of Population

In 2001, the rate for immigrant men was 29% if they were a member of a visible minority and 16% otherwise. For women, the rates were 45% and 25% respectively. Furthermore, the observed gaps largely persist even after taking account of education level, language, experience, field of study, country of origin and region of residence.³

If the high rate for visible-minority recent immigrants depended solely on their belonging to a visible-minority group, Canadian-born visible minorities should also display high rates. This is not always the case; the rate varies by sex and age. For example, in 2001, visible-minority male workers born in Canada and aged 25 to 34 had the same rate (15%) as their non-visible-minority counterparts. The same was true for women aged 45 to 54, whose mismatch rate was 11%. And the gap separating the rates for visible-minority men aged 45 to 54 and their non-visible-minority counterparts (13% and 10% respectively) disappeared after controlling for education level, language, experience, field of study, country of origin and region

This gap might be due to several factors: professional and social networks and institutional barriers; difficulty expressing oneself in one of the official languages; problems getting foreign credentials and experience recognized; the quality of education in the country of origin (Sweetman 2003); and various non-observable characteristics such as the quality of the applicant, motivation, and the discrimination that some immigrants may encounter.

On this latter point, several studies have shown the double disadvantage of recent immigrants who are members of visible minorities (De Jong and Madamba 2001; Li 2001). The mismatch rate appears to go in the same direction, since there is a sizeable gap between the rate for recent immigrants who are members of visible minorities and the rate for those who are not.

Chart: Number of immigrants

Source: Citizenship and Immigration Canada, 2003

of residence. However, for men aged 35 to 44 and women under 45 born in Canada, the mismatch rates in 2001 were slightly higher for those who belonged to a visible minority than for those who did not.⁴

Field of study and region of origin

Given the current importance of the new information technologies and the increased demand for trained workers, one might expect that recent immigrants with a degree in engineering, computer science or mathematics would find it easier to land a job that matched their skills than those in education, the humanities, or the social sciences (Table 3). This was indeed the case. Mismatch rates for the former group were 17% for men and 26% for women in 2001, compared with 39% and 45% for the latter group.⁵ The lower rate observed for these fields of study is robust. When education level, language, experience, region of origin, visible minority status, and region of residence are taken into account, much of the gap remains.⁶

Despite the relative stability of mismatch rates over the decade, some fields of study showed major changes. For example, the rate for recent immigrants holding degrees in the social sciences increased significantly for men (from 33% to 43%), while the rate for computer science and mathematics fell 7 percentage points for men and 6 for women.

Region of origin also appears to influence the mismatch rate. In 2001, immigrants from South Asia and Southeast Asia⁷ posted disproportionately high rates. Some 37%

Table 3: University graduate recent immigrants in low-education jobs

	Men			Women		
	1991	1996	2001	1991	1996	2001
	%					
Total	27	32	25	41	47	38
Mother tongue						
English	18	27	23	30	41	34
French	16	21	16	24	23	21
Other	30	34	26	46	49	40
Age						
25 to 34	28	34	22	41	47	37
35 to 44	25	30	24	41	45	39
45 to 54	28	35	33	40	50	43
Education						
Bachelor's	32	40	31	46	52	44
Master's	21	23	18	29	33	25
Doctorate	3	4	7	9	9	11
Class of worker						
Self-employed	25	27	22	26	30	22
Employed	27	33	26	42	48	40
Field of study						
Arts and sciences	37	45	39	47	52	45
Teaching and fine arts	34	32	34	41	45	38
Humanities	31	43	39	46	49	47
Social sciences	33	48	43	47	49	43
Commerce	42	51	39	51	62	49
Other	36	37	33	44	48	41
Applied sciences	19	24	17	27	37	26
Engineering and applied sciences	19	25	20	25	39	28
Mathematics and computer science	20	21	13	29	35	23
Health	16	22	26	28	33	36
Region of origin						
North America	11	15	12	15	21	20
Central and South America, and the Caribbean	31	35	25	45	45	38
Northern and Western Europe	8	12	10	20	19	18
Southern and Eastern Europe	24	22	18	36	41	29
Africa	24	31	21	28	36	28
South Asia	40	51	37	63	60	55
Southeast Asia	45	59	48	59	72	61
East Asia	22	23	18	35	34	30
West Asia	33	37	28	44	43	38
Oceania and other	14	14	10	18	22	17
Visible minority						
Yes	32	39	29	49	53	45
No	17	19	16	25	33	25

Source: Census of Population

to 48% of men from these regions held at least a university degree but worked in an occupation requiring at most a high school education. The corresponding proportions for women were 55% and 61%. Here again, much of the observed gap remained, even after controlling for between-group differences in work experience, language, education, field of study, and region of residence.⁸

While coming from South or Southeast Asia increases the probability that a recent immigrant will hold a low-education job, coming from North America, Northern or Western Europe or Oceania reduces this risk considerably. Immigrants from the latter regions exhibited the lowest mismatch rates, with the men having rates very comparable to native-born Canadians.

As expected, higher education appears to protect a sizeable proportion of job-seekers against falling into low-education jobs. Compared with bachelor's degree holders, recent immigrants with a master's or doctorate were much less likely to hold jobs requiring no more than high school education in 2001. Recent immigrants of either sex with a doctorate were one-quarter as likely as those with a bachelor's degree to hold such jobs.

Linguistic differences

Given the importance of written and oral communication in an economy increasingly based on knowledge, ease of expression in one of the official languages should enhance the access of immigrants to jobs corresponding with their education level. Indeed, recent immigrants whose mother tongue was one of the official languages were less likely to hold low-education jobs.

The disparities observed between recent immigrants whose mother tongue was English and those with another mother tongue remained when region of origin, experience, education level, field of study, and visible minority status were taken into account. However, the gaps between those whose mother tongue was French and those with another mother tongue did not hold up to multivariate analysis.⁹

Being able to converse in English or French also appears to enhance access to the same occupation held prior to immigration. Some 40% of recent immigrants who could converse in one of the official languages had similar jobs before and after immigrating, compared with only 25% of those who could not converse in either language (Statistics Canada 2003).

Possibly, the effect of language is hard to dissociate from the effect of region of origin, since nearly two-thirds of persons from Anglo-Saxon countries such as the United States, New Zealand and Australia kept the same occupation after immigrating, compared with only a third of immigrants from Asia and the Middle East. In addition to having English as their official language, immigrants from Anglo-Saxon countries also have had the best chance of having their credentials recognized.

High mismatch rate for women

At 38% in 2001, the rate for immigrant women was one and a half times the 25% registered for men. Nearly half of the gap arises because women less often have a higher degree (master's or doctorate), and their degree is seldom in an applied field, such as engineering, computer science or mathematics.¹⁰

Another factor, which cannot be measured by the census, may be that women less often than men enter Canada as economic immigrants, coming instead as the spouse or dependant of an economic immigrant or for reasons of family reunification (Statistics Canada 2003).¹¹ Since economic immigrants usually perform better in the labour market than other immigrants, the low proportion of women entering with this status may partially explain their high rate.¹²

Institutional barriers

Some occupations are regulated by professional associations. To be certified, applicants must often undergo examinations and show that they have a certain number of years of work experience in Canada and a good knowledge of English or French (Boyd 2000). Such requirements, which regulate access to some occupations (such as in the health, engineering and legal fields as well as some specialized trades), may affect chances of finding a job that matches education level.

Despite current pressure on the health professions, and more pressure expected because of population aging, the health field posted an increase in the mismatch rate between 1991 and 2001, from 16% to 26% for men and from 28% to 36% for women. For recent immigrant men who had studied to be doctors, it more than doubled—from 11% to 23% (Table 4). For recent immigrant women who had studied nursing, it increased from 30% to 47%. Taking age, language, country of origin, and region of residence into account had almost no effect on these rates.¹³ By comparison,

Table 4: University graduate recent immigrants in selected fields of study

	Men			Women		
	1991	1996	2001	1991	1996	2001
	%					
Law						
Recent immigrants	31	47	44*	50	44	37
Canadian-born	2	3	3	4	6	6
Psychology						
Recent immigrants	40	48	38	54	63	48
Canadian-born	11	15	9	17	21	11
Architecture						
Recent immigrants	15	32	18	9	43	24*
Canadian-born	3	6	3	6	10	7
Engineering						
Recent immigrants	19	24	20	27	38	28
Canadian-born	5	5	5	6	11	7
Medicine**						
Recent immigrants	11	17	23*	15	27	18
Canadian-born	1	2	1	1	4	1
Nursing						
Recent immigrants	F	F	F	30	37	47*
Canadian-born	6	10	7	4	5	4

Source: Census of Population

* The gap between rates in 1991 and 2001 is statistically significant at the 5% threshold.

** At least 6 years of university education.

the rates of native-born Canadians remained stable at approximately 1% and 4% respectively for men in medicine and women in nursing.

Other occupations also showed an increase in rates—law, from 31% to 44% for men; architecture, from 9% to 24% for women. However, rates in some occupations remained relatively stable; for example, engineering, which accounted for more than a third of recent immigrant men with a degree in 2001, had a rate of about 20% throughout the decade.

With the latest changes to immigration policy, the Canadian government intends to distance itself from the model favouring immigrants with degrees in specific occupations and to put more emphasis on skills that are flexible and easily

transferable (Canada Gazette 2002). Initiatives designed to accelerate the accreditation process are also underway in some provinces,¹⁴ and at the federal level, various task forces have been created to shed light on the issue (FPTAC 2004).¹⁵

Earnings differences

Having a low-education job greatly affects the employment income of recent immigrants with university degrees (see *Definitions* regarding sample selection). Compared with their counterparts in jobs requiring a university degree, recent immigrant men employed full time in jobs requiring no more than high school education earned 42% less per week in 2000 (Table 5). For women, the gap was 39%. Young men registered a gap of 47%, up sharply from the 29% observed in 1990.

Table 5: Average weekly wages* of recent immigrants with a degree, by educational requirements of their job

	Men			Women		
	1990	1995	2000	1990	1995	2000
	2000 \$					
25 to 54						
Secondary school diploma or less	682	561	684	545	480	555
University degree	1,043	992	1,186	869	875	911
Gap (%)	-35	-43	-42	-37	-45	-39
25 to 34						
Secondary school diploma or less	696	562	626	550	444	537
University degree	978	923	1,184	843	854	904
Gap (%)	-29	-39	-47	-35	-48	-41
35 to 54						
Secondary school diploma or less	669	560	714	540	518	568
University degree	1,095	1,045	1,188	901	899	918
Gap (%)	-39	-46	-40	-40	-42	-38

Source: Census of Population, 1991, 1996, 2001

* Working mostly full time during the census reference year.

See Definitions for restrictions that apply to the sample used in this table.

It is not surprising that recent immigrants in low-education jobs have lower earnings than those in jobs requiring university education. What is surprising, however, is that they also earn less than those born in Canada who work in the same situation (Table 6). In 2000, regardless of age group, recent immigrants employed full time in low-education jobs had weekly earnings at least 20% lower than their Canadian-born counterparts. Indeed, the gap reached 30% among 35 to 54 year-olds.

The earnings gap could simply be caused by the difficulty new labour-market entrants experience in finding well-paying jobs. If so, the gap between recent immigrants and the Canadian-born holding low-education jobs should narrow over the years. In these jobs, immigrant women aged 25 to 44 who entered Canada between 1985 and 1989 earned, in 1990, 20% less than their Canadian-born counterparts when employed full time (Table 7). Ten years later, in 2000, the earnings gap between these two groups of women (now aged 35 to 54)

Table 6: Average weekly wages of employees* in low-education jobs, by immigrant status and age

	Men			Women		
	1990	1995	2000	1990	1995	2000
2000 \$						
25 to 54						
Canadian-born	863	841	953	694	675	740
Recent immigrants	682	561	684	545	480	555
Gap (%)	-21	-33	-28	-21	-29	-25
25 to 34						
Canadian-born	772	704	789	660	615	682
Recent immigrants	696	562	626	550	444	537
Gap (%)	-10	-20	-21	-17	-28	-21
35 to 54						
Canadian-born	982	998	1,079	760	776	806
Recent immigrants	669	560	714	540	518	568
Gap (%)	-32	-44	-34	-29	-33	-30

Source: Census of Population, 1991, 1996, 2001

* Working mostly full time.

See Definitions for restrictions that apply to the sample used in this table.

remained unchanged. Similarly, no narrowing of the earnings gap was observed for men.¹⁶

For all years examined, the gap among women working full time remained above 20%, even after accounting for mother tongue, education level, field of study, visible minority status, and region of

residence (Table 8). Moreover, when control variables were added for occupation, the gap did not narrow appreciably.¹⁷ For men, the 26% earnings gap in 2000 fell to 11% when the first factors were taken into account. The gap was no longer statistically significant when differences in occupation were taken into account. Hence, the lower earnings of recent immigrant men in low-education jobs seem to be in part attributable to their concentration in low-paying occupations.¹⁸

In light of the crucial role of language skills in our increasingly knowledge-based economy, it is worth noting that the earnings gap for this group of men working full time differs depending on mother tongue, especially for earnings in 1990 and 1995. For example, for Canadian-born and recent immigrant men with English as their mother tongue, the earnings gaps were only 3% and 6% respectively in those years, compared with 15%

Table 7: Trends in earnings of immigrants and the Canadian-born

	1990	1995	2000
Women, university degree*			
Average weekly earnings		\$	
Immigrated 1985-1989**	550	571	639
Canadian-born**	692	739	806
Gap (%)	-21	-23	-21
Men, university degree*			
Average weekly earnings			
Immigrated 1985-1989**	692	729	801
Canadian-born**	840	931	1,079
Gap (%)	-18	-22	-26

Source: Census of Population, 1991, 1996, 2001

* Working mostly full time during the census reference year.

** Aged 25 to 44 in 1991.

See Definitions for restrictions that apply to the sample used in this table.

Table 8: Adjusted wage gap between immigrants and the Canadian-born**

	1990	1995	2000
		%	
Women***			
Unadjusted	-21	-23	-21
Adjusted (1)†	-28	-24	-28
Adjusted (2)††	-25	-21	-26
Men			
Unadjusted	-18	-22	-26
English mother tongue	-3	-6	-23
Other mother tongue	-15	-23	-23
Wage gap (1)†	-24	-21	-11
English mother tongue	-10	-12*	-15*
Other mother tongue	-32	-27	-14*
Wage gap (2)††	-22	-17	-7*
English mother tongue	-8*	-9*	-9*
Other mother tongue	-29	-23	-9*

Source: Census of Population, 1991, 1996, 2001

* Not significant at the 5% threshold.

** Wage gap (%) between immigrants who arrived between 1985 and 1989, were 25 to 44 in 1991, had a university degree and were in a low-education job, and their Canadian-born counterparts.

*** For immigrant women, controlling for language in a logistic regression did not result in a significant difference. Therefore, an adjustment was not done for women.

† Adjusted wage gap, taking into account education level, field of study, mother tongue, region of residence, visible minority status, age and age squared.

†† Adjusted wage gap, taking into account the above factors as well as job type.

and 23% for those with a mother tongue other than English or French. However, in 2000, more than 10 years after the arrival of this cohort, the effect of language was no longer significant. For women, multivariate analysis did not reveal any significant difference in this regard.

For immigrant women working full time in low-education jobs and belonging to the 1985 to 1989 cohort, the earnings gap is long-lasting: nearly 30% of those holding a job were in low-education positions in 2001, more than 10 years after their arrival in Canada (Table 9). Even so, this group's rate declined, falling from 41% in 1991 to 29% in 2001. Similarly, 21% of immigrant men belonging to the 1985 to 1989 cohort held low-education jobs in 2001, a rate fairly close to 1991 (27%). Thus, even though the members of this cohort arrived during the economic boom of the second half of the 1980s, and even though the unemployment rate in 2001 was a relatively low 7.2%, at least 21% of them held low-education jobs more than 10 years after their arrival in Canada.

Summary

Among recent immigrants with a university degree and employed between 1991 and 2001, at least one in four had a job requiring no more than a high school education.

The recent immigrants most likely to have such jobs in 2001 came from South or Southeast Asia, had a mother tongue other than English or French, were members of a visible minority, and were women. Those least likely to have such jobs were from North America, Northern or Western Europe or Oceania; had a master's degree or doctorate; were trained in applied sciences (engineering, computer science or mathematics); and had English as their mother tongue.

While the proportion of recent immigrants holding low-education jobs changed little between 1991 and 2001, it increased for those with an education in health or the social sciences. On the other hand, graduates in computer science or mathematics saw their mismatch rate decline.

Table 9: University graduates 25 to 44 in low-education jobs in 1991, by subsequent status

	1991	1996	2001
		%	
Women			
Recent immigrants	41	36	29
Canadian-born	14	15	12
Men			
Recent immigrants	27	25	21
Canadian-born	12	13	11

Source: Census of Population

For the three years studied, recent immigrant men from North America, Northern or Western Europe and Oceania had rates very similar to those of their Canadian-born counterparts.

The strong propensity of young immigrant men with visible minority status to hold low-education jobs does not appear to be attributable solely to their visible minority status, at least in 2001. In that year, Canadian-born men aged 25 to 34 with visible minority status had the same probability as others born in Canada of holding a job requiring no more than a high school education. The same trend was observed for women aged 45 to 54.¹⁹

There was no trend toward a decrease in the earnings gap between immigrant women who arrived between 1985 and 1989 and Canadian-born women holding low-education jobs. The earnings gap was 20% not only in 1990 but also in 2000, more than 10 years after their arrival in Canada. While these results concern a specific subset of the recent-immigrant population, they contrast strikingly with the findings of some earlier studies (Bloom, Grenier and Gunderson 1995; Grant 1999; Frenette and Morissette 2003). These studies, which looked at all recent immigrants, regardless of education level, show that the earnings gap between them and Canadian-born workers generally tends to diminish over the years.²⁰

Even after spending more than 10 years in Canada, at least 21% of employed, degree-holding immigrants who arrived between 1985 and 1989 had a low-education job in 2001. This suggests that their difficulty in obtaining university-level jobs is not necessarily a short-term phenomenon. Whether low-education jobs are held on a temporary or long-term basis is important, since advanced skills could erode over the long run.

Perspectives

Notes

1 India, Bangladesh, Bhutan, Maldives, Nepal, Pakistan, Sri Lanka and East Timor.

2 Unless the ease of immigrants to express themselves in one of the two official languages is tested, this factor is not easy to capture. In addition to mother tongue, the census includes a question on the ability to carry on a conversation in English or French as well as the language spoken at home. The ability to carry on

Low-education jobs and underemployment

Between 1991 and 2001, the unemployment rate declined for persons aged 25 to 54, but for recent immigrants it fell more markedly, going from 9.6% to 7.4% for men and from 12.5% to 10.5% for women. However, their presence in low-education jobs may be considered as a form of underemployment since those affected do not achieve their full potential in the labour market, thus depriving the Canadian economy of their skills. If the number of workers in such jobs is added to the number of unemployed, the resulting underemployment rate²¹ in 2001 for recent immigrant men was 27.4%, more than double the rate for their Canadian-born counterparts. For immigrant women, the underemployment rate was nearly 42%, three times that of their Canadian-born counterparts.

Age 25 to 54	1991	1996	2001
	%		
Unemployment rate			
Men			
Canadian-born	2.9	2.4	2.3
Recent immigrants	9.6	9.5	7.4
Other immigrants*	3.8	3.9	3.4
Women			
Canadian-born	4.3	3.3	2.7
Recent immigrants	12.5	11.9	10.5
Other immigrants*	5.3	4.6	4.0
Underemployment rate**			
Men			
Canadian-born	11.0	13.3	11.5
Recent immigrants	29.4	34.5	27.4
Other immigrants*	13.3	17.2	16.8
Women			
Canadian-born	15.8	18.0	14.1
Recent immigrants	45.3	50.2	41.9
Other immigrants*	22.6	25.6	24.3

Source: Census of Population

* Immigrants who arrived during the year and a half preceding each census have been excluded.

** Number of unemployed workers plus those in jobs requiring less than their education level as a percentage of the labour force.

a conversation seems to often be overestimated by respondents speaking neither language. Both in 1991 and 2001, 99% of recent immigrants aged 25 to 54 with a university degree reported that they were able to express themselves in English or French. As for the question on language spoken at home, this does not necessarily measure ease in expressing oneself in English or French. Accordingly, mother tongue is used to reflect the linguistic ability of immigrants.

3 These results come from separate logistic regressions for men and women that included the variables cited. The results are available on request.

4 These results are based on several logistic regressions including independent variables such as age, education level, field of study, mother tongue and region of residence, in addition to the variable of belonging to a visible minority. Regressions were carried out for men and for women aged 25 to 34, 35 to 44, and 45 to 54. Results are available on request.

5 Recent immigrants holding degrees in the health sciences are excluded from these rates. This field of study is covered in the section on institutional barriers.

6 These results are obtained from a logistic regression. The dependent variable 'holding a job requiring a high school education or less' was regressed on the variable 'studied or did not study applied sciences' along with the above-mentioned variables. The adjusted rate calculated using the results of this multivariate analysis was 18% for men in applied sciences compared with the 17% indicated by the raw data. For women, the adjusted rate was 30% instead of 26%. Recent immigrants with an education in health sciences were excluded.

7 Southeast Asia comprises Brunei, Darussalam, Cambodia, Indonesia, Laos, Malaysia, Myanmar, the Philippines, Singapore, Thailand and Vietnam. See Note 1 for the countries that make up South Asia.

8 These results are obtained from separate logistic regressions for men and women, with the following independent variables: originating or not originating from South or Southeast Asia, age, education level, field of study, language and region of residence. The mismatch rate adjusted on the basis of these variables for immigrants from South and Southeast Asia combined was 32% for men and 52% for women, compared with the unadjusted rates of 40% and 58%.

9 The multivariate analysis involved here is a logistic regression in which the dependent variable 'having a job requiring high school education or less' was explained by the mentioned variables. The differences in rates between those with French as their mother tongue and those with another mother tongue are entirely explained by differences with respect to the independent variables included in the logistic model.

10 These results were obtained from a Oaxaca decomposition based on age, education level, region of origin, field of study, region of residence, mother tongue and visible minority status. When these factors are taken into account, between 40% and 60% of the difference in rates between recently immigrated men and women remains unexplained.

11 Immigrants are admitted to Canada under three broad categories: *economic* (including spouses and dependants), *family reunification*, and *refugee*. According to the Longitudinal Survey of Immigrants, from October 2000 to September 2001, men accounted for 77% of the economic category. Women in this category were more likely to enter as a spouse or dependant, this being the case for 75% of them. Women accounted for 60% of immigrants admitted to Canada in the family reunification category.

12 Economic immigrants registered higher participation and employment rates than other categories of immigrants. "In general, immigrants admitted under the skilled worker category entered the labour market faster and had more years of earnings than those in other admission classes." (Chui and Zietsma 2003, 28).

13 The adjusted rate for men who had studied medicine went from 11% in 1991 to 21% in 2001. For women who had studied nursing, the adjusted rate went from 30% to 48%.

14 In Ontario, several programs exist for different occupations, such as the Care program for nurses, the IPG program for pharmacists and the Pathways program for engineers. In Quebec, a task force on the recognition of equivalences was formed in April 2004 to facilitate the integration of skilled immigrants (Cauchy 2004).

15 In February 2004, the Task Force on Licensure of International Medical Graduates made several recommendations regarding the situation of immigrants with medical degrees. Similar task forces have been formed to look at immigrants with nursing or engineering degrees. The Prime Minister has appointed a Parliamentary Secretary for Foreign Credential Recognition, and the budgets of 2003 and 2004 identified new resources for credential recognition (2002) and enhanced language training (2004).

16 The increase in the earnings gap between 1990 and 2000, from 18% to 26%, is not statistically significant at the 5% threshold.

17 The adjusted earnings gaps shown in Table 8 are based on multivariate analyses. The dependent variable is the natural logarithm of weekly earnings. The independent variables are described in Table 8. The region of residence is measured using a set of dichotomous variables for Montréal, Ottawa-Gatineau, Calgary, Toronto, and Vancouver and the other census metropolitan areas. Occupations are measured using 19 dichotomous variables representing different occupational categories.

18 In 2001, 21% of recent immigrant men with university degrees belonging to the cohort that arrived between 1985 and 1989 held low-paying jobs such as janitors or machine and equipment operators. Among their Canadian-born counterparts, the corresponding proportion was 11%.

19 This does not exclude the possibility that Canadian-born workers belonging to visible minorities earn lower wages than other native-born Canadians. For a more detailed analysis, see Pendakur and Pendakur (2002).

20 For example, Frenette and Morissette (2003) looked at individuals regardless of their education level who worked at least 40 weeks a year. For immigrant women who arrived between 1985 and 1989, the earnings gap in relation to the Canadian-born declined from 27% in 1990 to 21% in 2000.

21 The underemployment rate here refers solely to unemployment and presence in low-education jobs. It does not include other forms of underemployment, such as involuntary part-time work.

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Shifts in consumer spending

Tarek M. Harchaoui and Faouzi Tarkhani

The boom in consumer spending, now in its 12th year, has weathered many adverse shocks to the economy, including terrorist attacks, a sharp decline in equity prices, SARS, and the closing of the American border to Canadian beef products. Throughout this time, resilient household demand, which accounts for almost 60% of the nation's gross domestic product (GDP), not only sustained growth but also played a key role in supporting the economy. Over the last 20 years, however, consumer spending and asset holdings have shifted dramatically reflecting changes in taste, lifestyle and the economy. Developments stem from many factors, including demographic change, technological and financial innovation, globalization of financial markets, rising household wealth, and women's increased participation in the labour market.

Twenty years ago, Canadian families tended to put their savings into personal deposits and fixed-term investments. Today, they are investing in mutual funds and other financial investments. An aging population is increasingly seeking retirement products and supplementary health-insurance coverage. The resulting emphasis on longer-term savings products has propelled the demand for financial planning and wealth management.

A more affluent and active population eats more meals away from home and buys vehicles such as minivans and sport utility vehicles that are more versatile than the traditional family car. Faster population and employment growth in suburban areas has also led to more spending on personal transportation services and less on mass transportation.

In recent years, Canadians have been affected more and more by the rapid advance in information and telecommunications technology. Personal computers

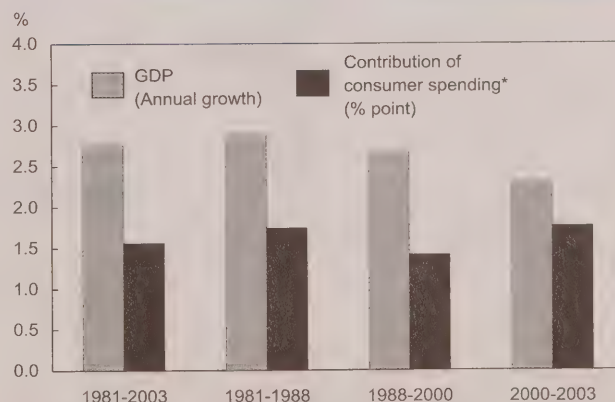
and the Internet are increasingly changing ways of communicating, acquiring information, and purchasing goods and services.

A long-term perspective

Personal consumption expenditures reflect spending to acquire goods and services for the direct satisfaction of individual or collective wants. Attaining higher levels of consumption now or in the future is a major goal of most individuals and a widely accepted indicator of national economic activity. Accounting for 56.3% of GDP in 2003 and contributing more than half of the 2.8% average annual growth in GDP between 1981 and 2003, consumer spending is directly relevant to an assessment of Canada's long-term progress (Chart A).

From 1981 to 2000, the last year before the economy slowed down, real consumer spending grew 2.6% annually, slightly less than GDP. From 2000 to 2003, consumer spending contributed three-quarters of the

Chart A: Consumer spending accounted for more than half of GDP growth.



Source: Income and Expenditures Accounts, 1981-2003

* The rate of growth multiplied by the value share.

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2.3% annual GDP growth—despite several events that adversely affected air transport, high-tech equipment, and new truck and van sales.

The wealth effect

An increase in real incomes, the accumulation of household assets, and a willingness to take on more debt have resulted in higher consumer spending on discretionary items relative to basic necessities. Between 1981 and 2000, the net worth of households increased at an annual rate of almost 7%, about double the increase in consumer expenditures (3%). In 2000, life insurance and pensions plus stocks accounted for 68% of household financial assets, up from 47% in 1981 (Chart B). This came at the expense of interest-bearing asset holdings (down from 11% to 6%), deposits (36% to 26%), and other financial assets (6% to less than 1%). The most significant change in the composition of assets occurred in RRSPs. The amount in RRSPs in the late 1990s was 6 times larger than in the early 1980s, by far the largest increase of any single asset. This contrasts sharply with total assets, which grew 2 times over the same period. The proportion of families that had RRSPs doubled from 28% to 55%.

Homeownership has also become more important. In 2000, housing accounted for 47% of non-financial household assets, up from 41% in 1981. Generally

robust economic conditions and relatively manageable mortgages boosted the housing market, particularly in the second half of the 1990s when housing assets grew at an average annual rate of 4%.

The increase in housing prices in recent years contributed to rising household wealth and helped underpin continued strength in consumer spending. Rising housing prices combined with lower interest rates and financial innovation have increased the borrowing capacity of households. In the past few years, the increase in borrowing secured against housing exceeded net new spending on housing assets. This means that households, in aggregate, have been extracting some of the equity in their homes for other purposes. The same phenomenon has been observed in the United States and the United Kingdom and has been cited as a factor in the growth of consumer spending in those countries.

Financial services

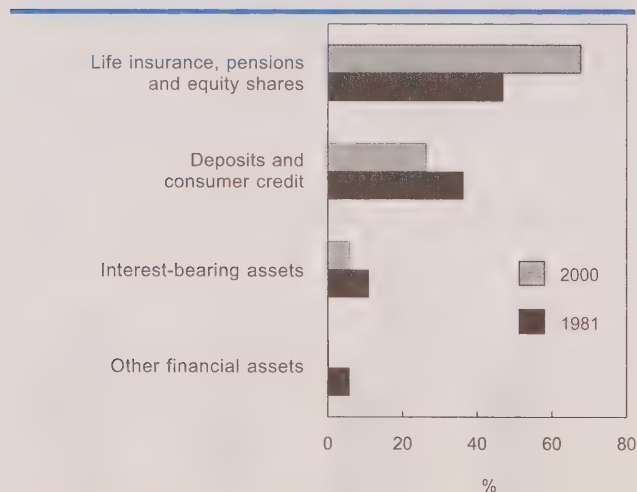
Much of the increase in discretionary spending was for financial services, largely reflecting the increase in household financial assets. Financial services include brokerage charges, investment counselling, accounting services, and bank service charges.

The share of financial services in personal expenditures increased from 0.6% to 2.4% between 1981 and 2000, largely reflecting an increase in the net worth of households and the growing portion of household assets accounted for by financial assets such as pension fund reserves, stocks, mutual funds, and money market funds (Table). During this period, mutual funds increased by 23.5% annually on average, the fastest-growing item in the consumer household basket.

Faster, better and cheaper

Over the period from 1981 to 2000, technological innovations resulted in a proliferation of new goods and services, including cable television, computers, electronic toys and games, cellular telephones, video equipment, and Internet services. Innovation also lowered the prices of many of these items, as well as those of more established goods and services such as audio equipment and long-distance telephone services. The new products increased their share from 1.5% to 3.6%, one of the fastest growth rates within the consumer basket (Table). During this period, computer purchases experienced the second most rapid growth after mutual funds (21.8% compared with 23.5%).

Chart B: Household financial asset holdings have shifted markedly.



Source: National Balance Sheet Accounts, 1981 and 2000

Table: Consumer spending by category

	Average annual growth rate (%)*			Shares**	
	1981-2003	1981-2000	2000-2003	1981	2000
	Chained	Constant	Prices	%	
Consumer spending	2.7	2.6	3.1	100.0	100.0
Food, beverages and tobacco	0.8	0.8	1.2	18.4	13.0
Clothing and footwear	1.8	1.5	3.8	6.7	4.6
Gross rent, fuel and power	2.7	2.7	2.8	21.2	22.7
Furniture, furnishings and household equipment and maintenance	2.6	2.3	4.4	9.9	8.1
TV sets, video equipment and accessories	9.4	8.8	13.0	0.6	0.5
Office machines and computer equipment	18.6	21.8	0.4	0.1	0.5
Medical care and health services	3.9	3.8	4.6	3.3	4.9
Medical care	4.9	5.1	3.4	1.7	2.3
Hospital care and the like	1.8	1.4	3.9	0.2	0.2
Other medical care expenses	4.9	5.1	3.4	0.4	0.7
Drugs and pharmaceutical products	4.7	4.5	6.0	1.1	1.7
Transportation and communications	2.9	3.0	2.5	15.7	16.9
New trucks and vans	9.4	10.4	3.6	0.6	2.3
Intercity and rural bus	-1.9	-2.2	0.3	0.2	0.1
Air transport	0.8	1.8	-5.3	1.2	1.2
Telecommunications	6.2	6.2	6.3	1.6	1.9
Education, finance, recreation and culture	4.7	4.7	4.5	8.4	11.1
Universities	2.9	2.6	5.2	0.2	0.5
Private schools	6.0	6.5	2.7	0.2	0.6
Other educational and cultural services	-3.0	-3.7	1.0	0.4	0.1
Meals outside the home	2.0	2.1	1.4	5.2	5.1
Stock and bond commissions	3.3	4.2	-2.4	0.3	0.4
Mutual funds	20.3	23.5	1.7	0.0	1.4
Legal, accounting and other services	3.6	3.6	3.5	0.3	0.4
Welfare and charitable organizations	6.7	6.8	6.4	0.4	0.8
Religious organizations	2.7	2.8	1.9	0.7	0.7
Cable and pay television	5.7	5.4	7.2	0.2	0.7
Miscellaneous goods and services	3.2	3.3	2.4	16.2	19.0

Source: *Income and Expenditures Accounts, 1981-2003*

* Constant dollars.

** Current dollars.

Telecommunication products and services grew 6.2% annually over the last two decades, compared with 8.8% for television sets and 5.4% for cable TV. This largely reflected an increase in the average number of lines per household, cellular phones, long-distance services,

and new convenience services such as caller ID, call-forwarding, and call-waiting. The increased use of cellular phones reflected both increased availability of cellular services and sharply decreasing rates. The increased use of long-distance services was due partly to

much lower rates as a result of technological advances and the restructuring of long-distance service providers in the mid-1990s.

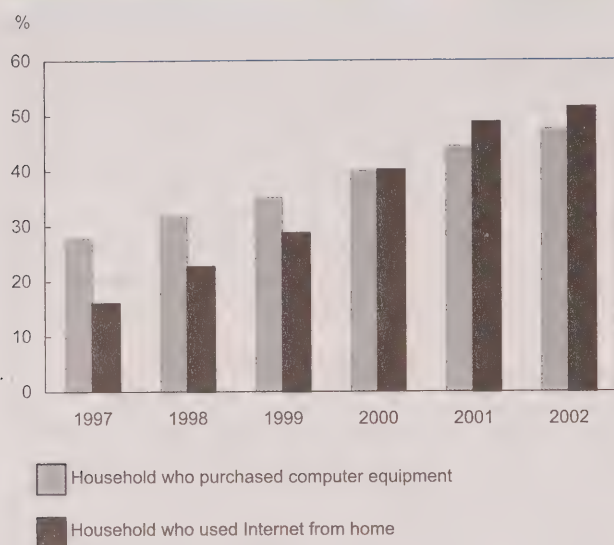
Canadians have often been quick to take up new consumer technologies. The number of households connected to the Internet grew rapidly between 1997 and 2002, jumping from 16% to 51%. Over the same period, household ownership of computers also increased, although not as strongly as use of the Internet (Chart C).

Health and education

Another important feature of consumer spending over the last 20 years has been the rapid increase in spending for health care (5% per year). This was primarily a result of increased third-party payments from private health insurance and public programs, reflecting both an aging population and the increased number of elderly.

While Canada's health care system provides universal medical care, not all expenses are covered by the various provincial plans. Most households make out-of-pocket expenditures for things such as health insurance, eye care, and prescription or non-prescription medications and pharmaceutical products. As a result, the share of consumer spending dedicated to health care increased from 3.3% to 4.9% between 1981 and 2000 (Table).

Although health care expenditures accounted for a relatively small share of the average household budget, almost every Canadian household (98.2%) reported such spending in 2000. The average was close to \$1,400, with the largest shares going to health insurance premiums and dental care. By contrast, 20 years earlier, the figure was about \$900 (1997 dollars).

Chart C: Internet use has expanded dramatically in recent years.

Source: Household Internet Use Survey; Household Spending, 1997-2002

The share for educational services advanced from 0.8% to 1.4%, reflecting the combination of the increased value placed on college education and rising tuition fees. College enrolment increased at an annual rate of 3.7% between 1981 and 2000, more than triple the 1.1% increase in the population.

Household spending for private schools experienced a rapid 6.5% annual growth during the period. Some 5.6% of children in the late 1990s attended a private elementary or secondary school, up from 4.6% a decade earlier. In contrast, despite a sharp increase in university tuition fees over the last two decades, household spending for university education advanced at only 2.6%. This may reflect an increase in the contribution of students to the expenses related to their postsecondary education.

Transportation

The movement of people from home to work depends on the availability of efficient and affordable public transportation as well as a road network for private vehicles.

Household spending on transportation in 2000 rose to an estimated \$7,000 (in 1997 prices), up 7% from 1981. This was due largely to a 10% annual

increase in the purchase of cars and trucks (which includes vans and sport utility vehicles). In 2000, the proportion of households purchasing trucks and vans reached 8%, up from 7% in 1997. In contrast, the proportion purchasing cars remained at 14%. Levels of car ownership are affected by many factors, including income, interest rates, car prices, and demographic trends. As cars are often shared within a household, a trend to more single-person households is likely to boost car numbers.

In 2000, households spent an average of \$350 on air transport, the largest component of public transportation. This was a 3% increase from 1997, after adjusting for inflation. The increase largely reflected more purchasing of airline services as consumers took advantage of discount fares after the restructuring of the airline industry, as well as greater use of travel agency services.

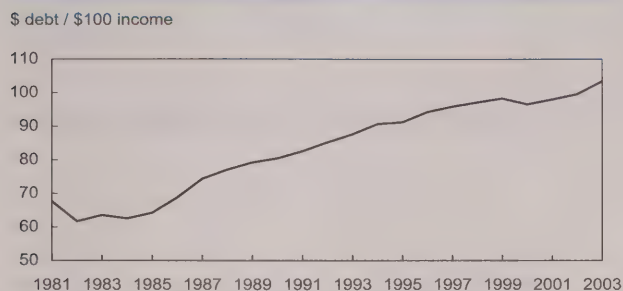
Recent years

The slowdown of the economy in 2001 was marked by a major correction of corporate-sector investment demand, while household-sector spending (consumption and housing investment) remained unusually strong. As the bull market of the 1990s turned into the bear market of the early 2000s, households reallocated their assets.

Although consumer spending generated much of GDP growth during the 2000-2003 period, GDP grew more slowly than during the 1995-2000 period (3.1% annually compared with 3.6%). This slower growth in recent years is mainly attributable to slower growth or pullbacks in a number of industries: air transport (-5.3%), new trucks and vans (3.6% compared with 10.4% during the 1981-2000 period), financial services (1.7% for mutual funds compared with 23.5%; -2.4% for stocks and bond commissions compared with 4.2%), and office machines and computer equipment (0.4% compared with 21.8%).

In addition, consumer spending has been supported by a reduction in personal taxes between 1999 and 2000 (from 21.7% of total expenditures to 20.0%) and low central bank interest rates over the past three years. The Bank of Canada's lowering of the prime rate from 5.74% in 2000 to 3.18% in 2003—a 45% decline in three years—has spurred successive waves of mortgage refinancing and borrowing based on home equity, thus releasing substantial financial resources to fund consumer spending. In addition, households have increased their borrowing through use of credit cards

Chart D: In 2003, households had \$103 of debt to every \$100 of disposable income.



Source: National Balance Sheet Accounts; Income and Expenditures Accounts, 1981-2003

and short-term personal loans, particularly lines of credit. A steady increase in household debt since the mid-1990s combined with a marked slowdown in disposable income resulted in households in 2003 having \$103 in debt (consumer credit and mortgages) for every \$100 of disposable income (Chart D). However, low interest rates since 2000 would have moderated the increase in the debt burden.

During the current bear market, households have sharply reversed the more than decade-long trend of increasing their holdings of financial assets. During the period from 2000 to 2003, the share of financial assets experienced a decline—the first since the late 1970s. On balance, households have reallocated their assets away from stocks and investment vehicles toward tangible assets, such as housing and durable goods (Chart E).

Conclusion

Changes in household consumption patterns reflect tastes, preferences, technological development, and the structure of the economy. In Canada, as in many other industrialized economies, consumer spending accounts for about 60% of GDP. Understanding consumer behaviour is therefore paramount in analyzing the determinants of aggregate demand.

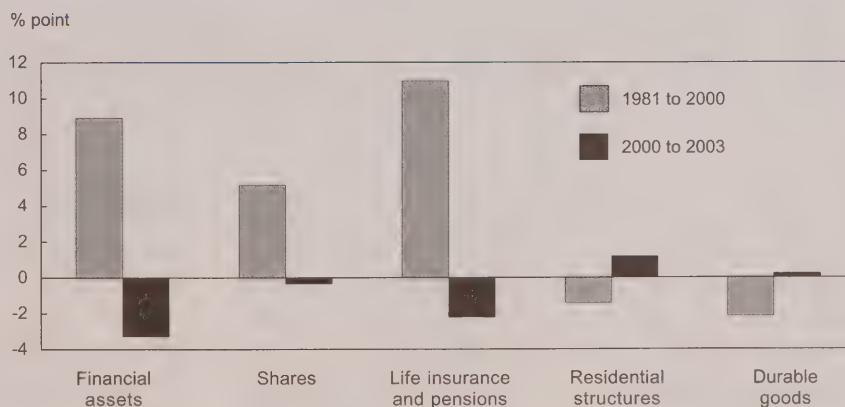
The strength of consumer spending is closely related to increases in personal incomes and wealth. Households have benefited from the rise in housing and stock markets over the past decade, with housing and equity share wealth rising by \$307 billion and \$330 billion respectively between the end of 1995 and 2003. These two assets alone contributed to slightly more than 20% of household wealth increase during this period.

Some observers, however, have viewed the surge in consumer spending with apprehension. The personal savings rate has fallen to historic lows, consumer debt levels have risen, and the household home equity ratio has dropped to an all-time low. This has led to concern that the rise in private consumption may not be sustainable and that a subsequent weakening could throw the recovery off track. Fears have especially been expressed that consumers could be exposed to a collapse of what many view as a housing 'bubble', given the spectacular increase in real estate prices in some markets.

Perspectives

This study does not incorporate the May 2004 revision to the System of National Accounts data.

Chart E: In recent years, households have shifted to tangible assets.



Source: National Balance Sheet Accounts, 1981-2003

Saving for postsecondary education

Sophie Lefebvre

In today's labour market, two out of three jobs require more than a high school education. In general, postsecondary graduates have a higher employment rate, are less vulnerable in the face of economic downturns, and enjoy higher earnings. Canadian families seem to understand the benefits of a postsecondary education: One study showed that parents of 95% of children under 19 believed that education beyond high school is important (Shipley, Ouellette and Cartwright 2003).

At the same time that postsecondary education has become a determinant of labour market success, its cost has increased dramatically. Average annual undergraduate university tuition fees have almost doubled, from \$2,023 in 1993-94 to \$4,025 in 2003-04 (Statistics Canada 2003). The increase in tuition fees and other education costs may be partly responsible for the increase in student debt. The average amount owed to student loan programs by university graduates increased 76% between 1990 and 2000 (Allen and Vaillancourt 2004). The Postsecondary Participation Survey found that one-third of students who left before graduating in 2002 did so for financial reasons (Barr-Telford et al. 2003).

Parents and the federal government apparently believe that saving for children's education will help ensure wider educational opportunities, successful completion of postsecondary education, and a minimal debt burden after graduation. Indeed, parents of more than 9 in 10 children agreed it was important to start saving early. The Survey of Approaches to Educational Planning showed that more children had savings put aside for their postsecondary education in 2002 than in 1999 (50% compared with 41%) (Shipley, Ouellette and Cartwright 2003).

The federal government encourages greater savings for postsecondary education expenses through the Canada Education Savings Grant (CESG), introduced in 1998.

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This grant is paid to a child's plan when parents (or others) invest in a registered education savings plan (RESP) (see *RESPs and CESGs*). Since the inception of the CESG, the use of RESPs by families saving for postsecondary education has increased. In 2002, more than half of children with savings had RESPs compared with 40% in 1999 (Shipley, Ouellette and Cartwright 2003).

This study uses the 2002 Survey of Approaches to Educational Planning to describe factors linked to the decision of parents to save for the postsecondary education of their children under 19 in 2002; the amount saved is also linked to these factors. A model was used to estimate cumulative parental savings (non-conditional on the decision to save), taking into consideration characteristics of the family and the child, aspirations and involvement of parents, awareness of saving incentive programs, and grant expectations.

Family and child characteristics

Saving for postsecondary education is influenced by many factors, including the family's financial circumstances and the child's age and performance at school.

Over two-thirds of children from the highest income families had savings put aside for their postsecondary education compared with less than 30% of children from the lowest income group. Also, the amounts invested for children in the highest income families were twice those of the lowest income families (Table 1).

Savings are based on both present and past finances, so a family's wealth is an important factor. One indicator of wealth is homeownership.⁶ Children whose parents owned the family home outright were more likely to have had money put aside for their education than children living in rental housing. In addition, the average amount saved by mortgage-free parents was almost three times greater than the amount saved by parents living in rental housing.

RESPs and CESGs

Any child can be a beneficiary of a **registered education savings plan (RESP)**, which grows tax free until the child is ready for postsecondary education. Parents, grandparents, relatives or friends can all contribute to an RESP.¹ The maximum contribution is \$4,000 per year, with a lifetime limit of \$42,000. An RESP can be a family, non-family, or group plan.²

An RESP allows the subscriber to apply for the **Canada Education Savings Grant (CESG)** on the beneficiary's behalf. Introduced in 1998, the goal of this program is to encourage saving for postsecondary education through RESPs. The federal government contributes 20% up to a maximum annual grant per beneficiary of \$400, with a lifetime limit of \$7,200. Grant room can be carried forward to future years.

Income from an RESP can be paid out once the beneficiary is enrolled as a full-time student in a qualifying program. These educational assistance payments (EAP) consist of earnings on RESP contributions, earnings on the grant, and the grant itself,³ and are included in computing the student's taxable income. If the beneficiary does not go on to postsecondary education immediately after high school, the RESP can continue to earn tax-sheltered income up to a maximum of 26 years. Should the beneficiary decide not to pursue postsecondary education, the contributor can name another beneficiary,⁴ transfer RESP and grant earnings into a personal or

	RESPs in 2002		Contributions to RESPs in 2001			
	Incidence	Median value	Incidence	Median contributions	Median CESG	Received maximum CESG
	%	\$	%	\$	\$	%
Total	26.9	4,000	22.3	1,000	200	32.7
Age						
0 to 5	31.2	2,000	23.6	1,000	200	26.1
6 to 12	27.9	4,000	24.4	1,000	200	29.4
13 to 18	22.1	6,000	18.7	1,400	280	44.6
Adjusted household income						
Less than \$15,000	12.9	3,000	10.0	700	140	25.0 ^E
\$15,000 to \$25,999	21.7	3,000	18.3	900	190	21.8
\$26,000 to \$39,999	29.8	3,600	25.0	1,000	200	30.8
\$40,000 and more	41.6	5,000	34.5	1,200	240	41.1

Source: Survey of Approaches to Educational Planning, 2002

spousal registered retirement savings plan, or withdraw the RESP earnings in the form of accumulated income payments.⁵ For more information on CESGs and RESPs see www.hrsdc.gc.ca.

In 2002, 27% of all children under 19 had RESPs established by their parents, with a median value (including interest and CESG) of \$4,000. Median amounts varied by age of the child, ranging from \$2,000 to \$6,000. Higher-income families were more likely not only to have RESPs but also to have greater RESP savings.

In 2001, 22% of children received approximately two billion dollars in RESP contributions from their parents. These contributions attracted an estimated 400 million dollars in CESGs. The median contribution was \$1,000 with a \$200 grant. Parents of children aged 13 to 18 were less likely to contribute to RESPs, but when they did, the investments were larger (\$1,400 compared with \$1,000 for younger children). Surprisingly, higher-income families did not invest enough to attract the maximum CESG. Only 41% of higher-income families contributing to RESPs in 2001 invested \$2,000 or more. Nevertheless, 45% of older children received enough RESP contributions in 2001 to attract the \$400 CESG (and up to \$800 if enough grant room was available).

The average saved increased with the age of the child, the amount for children 13 to 18 being almost three times higher than that for those under 6. Obviously, parents of older children would have had more time to start saving, so the incidence of saving and the amounts saved, conditional on saving, could be expected to increase with age. In fact, the age groups showed no significant differences in the likelihood of having saved.

As a child progresses through school, academic ability, measured by performance at school, may indicate to parents whether the child is a likely candi-

date for postsecondary education. Parents whose children perform well at school may be more inclined to save. Indeed, 55% of children with A averages had savings, compared with 42% of those with C averages, and only 28% of those with below C.

Another influencing factor is the saving for the child's education by others—grandparents, other relatives or friends. However, in reality few do so; in 2002, only 14% of children had saving plans established by persons other than parents. Those with such plans were also more likely to have savings from parents (59% versus 49%). Average amounts saved by parents did

Table 1: Savers and amounts saved by family characteristics

	Proportion of children [†]	Proportion of savers	Average amounts saved		Tobit model expected value of savings ^{††}
			Savers	Overall	
	'000	%	\$		\$
All children	7,172	50.2	8,600	4,300	
Adjusted household income		%			
Less than \$15,000	24.1	29.1	5,400	1,600	3,600*
\$15,000 to \$25,999	25.3	45.8	6,900	3,100	4,700*
\$26,000 to \$39,999	23.4	56.3	7,900	4,500	5,200*
\$40,000 or more	27.2	67.9	11,400	7,700	6,500
Ownership/mortgage					
Owner with mortgage	56.9	54.8	7,700	4,200	4,700
Owner without mortgage	14.7	67.5	14,000	9,400	8,100*
Renter	27.5	31.7	5,300	1,700	4,000*
Parents' highest education					
High school or less	28.7	36.6	7,300	2,700	4,400
Trade	12.5	43.1	8,500	3,700	4,900**
College	24.6	54.4	7,600	4,100	4,900**
Bachelor's	22.0	62.0	8,700	5,400	5,200*
Master's or above	9.6	65.3	13,300	8,700	6,500*
Siblings					
None	24.8	50.5	9,500	4,800	4,400*
One	46.3	53.9	8,300	4,500	5,100
Two	21.5	46.3	8,400	3,900	5,100
Three or more	7.4	38.0	7,900	3,000	5,400
Province					
Newfoundland and Labrador	1.6	52.9	8,200	4,300	3,100*
Prince Edward Island	0.5	45.2	7,100	3,200	900*
Nova Scotia	2.9	52.1	6,500	3,400	3,400*
New Brunswick	2.3	51.6	6,200	3,200	3,000*
Quebec	22.4	41.0	6,700	2,800	4,300*
Ontario	39.8	53.6	9,800	5,300	5,700
Manitoba	3.7	56.8	7,400	4,200	4,100*
Saskatchewan	3.4	58.1	10,900	6,300	4,900**
Alberta	10.8	52.5	7,400	3,900	4,900*
British Columbia	12.5	49.0	9,300	4,500	5,600
Family composition/ labour force status					
Two parents – two working	52.9	58.4	8,900	5,200	5,100
Two parents – one working	23.8	46.0	8,300	3,800	4,800
One parent – one working	12.5	40.8	8,900	3,600	5,200
Parent(s) – none working	9.1	28.6	6,400	1,800	4,400**
Other family types	1.7	40.1	8,500	3,400	4,600
Other savings besides parents					
No	86.0	48.9	8,500	4,200	4,800
Yes	14.0	58.6	9,000	5,300	6,100*

Source: Survey of Approaches to Educational Planning, 2002

* Statistically different from the reference group at the 1% level.

** Statistically different from the reference group at the 5% level.

† Totals may not add to 100% because of missing variables.

†† Savings are conditional on the average values of the explanatory variables.

not seem to be significantly affected by the presence of other savings plans.

Parental aspirations and involvement

Parental aspirations are known to be related to the likelihood of a child's participating in postsecondary education. In 2002, two-thirds of children were expected by their parents to get a university education (Shipley, Ouellette and Cartwright 2003). The saving behaviour of parents clearly demonstrates that they plan financially based on their aspirations (Table 2). In fact, the higher the postsecondary credential they hoped the child would obtain, the more likely they were to save, and the greater the amount saved.⁷

The hours parents spend with their child, and the frequency with which they talk about school or read aloud, can be indicators of involvement in their child's education. Saving for education can be considered another (Hossler and Vesper 1993). One might expect that parents who are more actively involved are more likely not only to save but to save more. The incidence of educational savings was higher for children whose parents spent more time with them and who interacted regularly about education (See *Data source and definitions*); however, the average savings amount did not differ significantly. Children who regularly participated in activities outside school were also more likely than those who did not to have savings (54% compared with 37%)—but again, the average amounts were similar.

Household savings—for example, RRSs—are known to be sensitive to changes in tax laws and in the

Table 2: Savers and amounts saved by other characteristics

	Proportion of children†	Proportion of savers	Average amounts saved		Tobit model expected value of savings††
			Savers	Overall	
	'000	%	\$	\$	\$
All children	7,172	50.2	8,600	4,300	
Child's characteristics		%			
Age					
0 to 5	27.7	52.6	4,700	2,500	4,400
6 to 12	39.0	50.4	8,000	4,000	4,900
13 to 18	33.3	48.1	12,900	6,200	5,500*
Academic performance					
A average	30.5	55.4	11,400	6,300	5,500
B average	23.6	47.4	9,400	4,500	4,600*
C average	9.2	41.8	9,500	4,000	4,400*
Below C average	2.6	27.7	11,100	3,100	3,500*
Not yet attending school	34.2	51.5	5,100	2,600	5,100
Sex					
Boys	51.3	49.4	8,700	4,300	5,100
Girls	48.7	51.0	8,500	4,300	4,800
Aspirations and involvement of parents					
Hope for postsecondary education					
None	9.4	33.5	5,700	1,900	3,700*
Trade	2.3	35.4	10,300	3,600	3,800*
College or CEGEP	15.2	39.7	7,200	2,800	4,300*
University	66.0	55.5	9,000	5,000	5,400
Other	7.2	50.7	8,800	4,400	
Interaction with child					
10 hours or less	24.2	45.5	9,000	4,100	4,800
11 to 20	21.7	51.0	9,700	4,900	4,900
More than 20	53.4	52.0	8,000	4,200	5,000
Interaction about education					
Less than 4 times per week	38.9	44.2	8,900	3,900	4,700**
4 or more times per week	60.4	54.4	8,500	4,600	5,100
Extra-curricular activities					
Regular	56.3	53.6	10,200	5,500	5,300
Irregular	18.4	36.9	9,500	3,500	4,400*
Not yet 5 years old	25.4	52.4	4,500	2,400	4,600
Aware of CESGs					
No	46.8	36.0	7,800	2,800	3,900
Yes	53.2	62.8	9,000	5,700	6,000*
Expect grant based on financial need					
Yes	31.9	41.2	6,900	2,900	4,300*
No	38.2	61.1	10,100	6,200	5,500
Maybe	25.5	47.0	7,900	3,700	5,000*

Source: Survey of Approaches to Educational Planning, 2002

* Statistically different from the reference group at the 1% level.

** Statistically different from the reference group at the 5% level.

† Totals may not add to 100% because of missing variables.

†† Savings are conditional on the average values of the explanatory variables.

labour market. It is therefore reasonable to assume that educational savings would be influenced by the introduction of savings incentive programs such as the CESG in 1998. Awareness of such a program could prompt parents to begin saving or add to existing savings (see *Program awareness*). Indeed, those who were aware of the CESG were more likely to save than those who were not (63% compared with 36%). The average amount saved was also greater.

Some parents anticipate that their child will receive financial help once enrolled in postsecondary education. About one-third of children had parents who expected them to receive grants based on financial need. Such expectations may lead parents to save less or not to save at all. Six in 10 children whose parents did not expect them to receive any grants had savings, compared with 4 in 10 children whose parents expected grants. Among children with savings, the average amount saved for them by parents not expecting grants was \$10,100—substantially more than the \$6,900 saved for children whose parents expected grants.

Factors that influence education saving

Parents set aside educational savings to insure that their children will have enough money to cover some or all of their postsecondary education costs. As shown, factors such as household income, home-ownership, and age and academic ability of the child seem to be related to the incidence of saving and the amount saved (conditional on saving). The aspirations of parents also seem to be related. However, the factors are closely interrelated. To understand the

Data source and definitions

The Survey of Approaches to Educational Planning was conducted in October 2002 by Statistics Canada in partnership with Human Resources Development Canada. The sample was representative of children 18 years or younger living in the 10 provinces. Approximately 10,800 households with children participated. Respondents were interviewed by telephone for one randomly selected child. The information was collected from the person most knowledgeable about the child—in most cases, a parent.

If savings had been set aside for the child's postsecondary education, questions were asked about the current value of the plan, including earnings and interest, also taking into account the Canada Education Savings Grant, if applicable. Any type of savings plan was considered: bank account, term deposit, saving bonds, RESP, or RRSP. The analysis considered only saving plans held by household members. Parents were asked to report the current value of savings specifically dedicated to the selected child.

Using cross-sectional data means that the characteristics of the child and the family were observed only for 2002, but the savings could have been accumulating for many years.

A small group of children were excluded from the original sample (1.6% of the weighted sample): those who were never expected to attend schooling (0.24%), those whose parents who did not state if they knew of the CESG program (1.34%), and a few whose cumulative savings were unreasonably high and distorted the results (0.03%).

Postsecondary education: any type of formal education after high school including college and university as well as apprenticeships, trade/vocational programs, general and vocational college, CEGEPs (in Quebec), and other programs.

Adjusted household income: total income from all sources during the last 12 months before taxes and deductions, adjusted by the square root of the household size.

Others saving besides parents: Parents were asked if anyone else was preparing or had a financial plan for the child's postsecondary education.

Child's academic performance: based on the respondent's knowledge of the child's school work and report cards; how well the child performed overall at school. A is 80% and up; B is 70%-79%; C is 60%-69%.

Hope for postsecondary education: Respondents were asked how far they hoped the child would go in school.

Interactions with child: Respondents were asked how much time they or their spouse usually spent interacting with the child.

Interactions about education: For children who had attended grade one, information was from the question on how many times the parent or spouse talked about school activities or things the child studied in class. For children who had not attended grade one, the information was derived from the question on how often the parent or other adult read aloud to the child.

Involved in activities: Respondents were asked about the child's participation in non-school organized activities, such as sports, social activities, or cultural activities. A child who participated at least once a week was classified as participating regularly.

Aware of CESG program: When the respondent was aware of the program that provides an additional 20% on RESP contributions, the child was classified as living in a household aware of the CESG.

Expect grant based on financial needs: Respondents were asked if they expected any part of the child's postsecondary education to be paid by grants or bursaries based on financial need.

relative contribution of a given factor in the amounts saved, a censored regression model was used (see *Tobit model*).

Financial means

Not surprisingly, a higher level of income meant more savings for a child's postsecondary education. Children from a family with an adjusted income of \$40,000 or more had, on average, about \$3,000 more in savings than children in a family with an adjusted income of less than \$15,000 (Table 1). Controlling for factors such as other family characteristics, child's characteristics, parental aspirations, and program awareness greatly reduced the difference between the savings of the lowest income group and the highest income group. Initially, the former had an average of \$1,600 in savings and the latter had \$7,700. Controls reduced this difference by half to \$2,900.

Children who lived in a mortgage-free home were most likely to have greater savings—\$8,100 on average. Even after controlling for income and other factors, they had significantly more savings than children living in a mortgaged home—a difference of \$3,400. On the other hand, the difference between the latter and those living in rental housing, while still significant, was relatively smaller, at \$700.⁹

Parental education

Children with at least one parent holding a university degree had significantly more savings accumulated than children with parents who had a high school diploma or less. Families in which at least one parent had a master's degree or above saved \$2,000 more, on average, than families in which parents had a high school diploma or less. Since household income and

Tobit model

A regression model is useful to understand the effect of one variable on an outcome when all other explanatory variables are held constant. But ordinary least square methods provide biased estimates when the dependent variable is truncated. In fact, the amount saved for postsecondary education is truncated since the value cannot be negative. If parents did not save, cumulative savings equal zero. Just under half of the children did not have savings and hence had a zero value for cumulative savings. In this case, a Tobit model can be used to estimate the relationship between the independent variables and the amounts saved for all children, including those with zero savings. The Tobit model takes into account that the dependent variable is truncated and constrained to be non-negative. The results in Tables 1 and 2 and the chart are the expected value of savings calculated from the estimated coefficients using a Tobit model and the mean values of the variables.

educational aspirations were controlled for in the model, part of the explanation for the larger savings may be that parents with a university degree are more aware of the different expenses faced during postsecondary studies.

Province

Saving rates also differed by province. Children in all provinces except British Columbia had significantly lower savings than Ontario children. This is consistent with Ontario's undergraduate university tuition fees being the second highest in the country (Statistics Canada 2003). Parents likely expect their child to study in their own province and plan their savings accordingly. Similarly, children living in Quebec, the Atlantic provinces, and Manitoba had the lowest amounts saved; Quebec, Newfoundland and Labrador and Manitoba also had the lowest undergraduate tuition fees. In Quebec, fees were frozen in 2003-04 for the seventh straight year at \$1,900 (\$1,700 for residents), approximately a third of fees in Ontario (\$4,900).

Siblings and other relatives

Children with at least one sibling had almost \$1,000 more in accumulated savings than those without siblings. Since income was adjusted by household size, the presence of a sibling might reflect a higher propensity to invest since parents will have to assist more than one child.

Even after controlling for other factors, children with savings originating from someone outside their household had significantly more savings from their parents. These 'others' may be filling the gap between expected costs and parents' ability to save or finance their children's postsecondary education when the time comes.

School performance and expectations

Children who were A students had more accumulated savings than those who had lower marks (Table 2). Students with B or C grades had about \$1,000 less than A students on average, and those with below C had about \$2,000 less. Parents seem to save more as they realize their children are performing well in school and are likely to pursue higher education.

The saving behaviour of parents was also related to aspirations for their child. Children expected to get a university education had more savings than children expected to get a college or CEGEP diploma—\$5,400 compared with \$4,300. This may be partly because a college diploma is generally less expensive than a university degree.

Children living in households in which parents were interacting regularly with them about education had accumulated slightly more savings. School-aged children whose parents were more involved had \$400 more of accumulated savings than children with less involved parents, even after controlling for factors such as parents' education and child's academic performance. Another factor associated with parents' involvement is the child's regular participation in extra-curricular activities. Children regularly involved in activities outside school had more savings than those not regularly involved, a difference of \$900. However, the number of hours children spent with their parents did not seem to affect the amount saved.

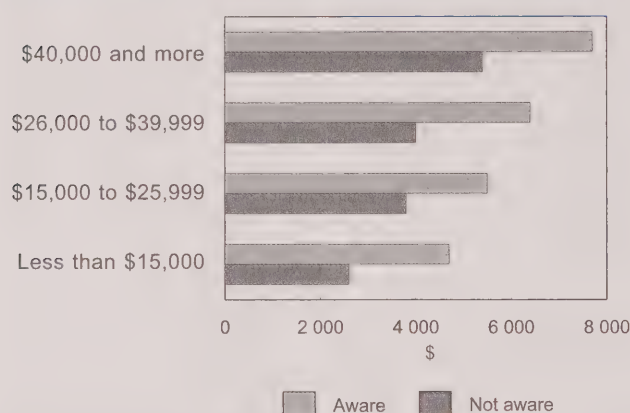
CESG awareness

Children whose parents were aware of the CESG program had, on average, over \$2,000 more in savings than children whose parents were not aware—\$6,000 compared with \$3,900.¹⁰ Since the participation rate in the RESP program was significantly lower for the lowest income families—13% compared with 42% for the highest income families (see *RESPs and CESGs*)—it might be assumed that the program had different effects on accumulated savings for families of different income classes.

In fact, there was no difference by income class. For children in the lowest income families, awareness of the program amounted to \$2,100 more being saved, compared with \$2,300 in the highest income class (Chart).

Chart: Regardless of income, the expected value of savings was higher when families were aware of the CESG.

(Adjusted household income)



Source: Survey of Approaches to Educational Planning, 2002

Financial assistance

Parents who expected their child to receive grants for postsecondary education based on financial need saved significantly less (\$1,200 less) for their child's education when all other factors were held constant. This has important implications since parents do not seem to have an accurate perception about the probability of receiving financial help. Parents of 29% of 13 to 18 year-olds expected their child to receive such grants, but only 15% of 18 to 24 year-olds enrolled in postsecondary institutions in 2002 (or earlier) actually received funds from outside the family (Shipley, Ouellete and Cartwright 2003). It would seem that savings will fall short of actual needs for large numbers of students hoping to pursue higher education.

Summary

Characteristics such as financial capacity and education of parents are related to saving for postsecondary education. Characteristics other than income explained

about half of the difference in savings between the highest income group and the lowest income group. Homeownership was especially strongly linked. Carrying a mortgage can interfere with the capacity to save, even if the family income is relatively high. Parents who were aware of the Canada Education Savings Grant program saved significantly more, regardless of income. The expectation of grants based on financial need to help pay for postsecondary education was associated with lower accumulated savings.

Perspectives

Notes

- 1 Depending on the type of plan, spouses and common-law partners can be joint subscribers. The subscriber must be a person, not a corporation, trust or other organization.
- 2 Family plans can have more than one beneficiary. However, each beneficiary must be related by blood or adoption to the subscriber and be under 21 when named. Contributions can be made only until a beneficiary turns 21. A non-family plan can have only one beneficiary. The beneficiary does not have to be related to the subscriber, and can be over 21 when named. A group plan is operated on a pooling principle, and if the beneficiary fails to qualify for payment, the earnings are distributed to other beneficiaries who do qualify.
- 3 A portion of each EAP is considered to be attributable to CESG paid into the plan. This portion is based on the ratio of grant to total investment earnings in the plan, and reduces the remaining balance in the plan's CESG account.
- 4 However, in order to keep the CESG, the new beneficiary must be under 21 and either a brother or sister of the former beneficiary, or both the new and old beneficiaries must be under 21 and related to the subscriber.
- 5 Accumulated income payments are made to the subscriber out of an RESP's investment earnings (contributions are refunded as a lump sum). Payments can be made only if the plan has been in existence for 10 years, all beneficiaries past and present have reached age 21, no beneficiary is attending school, and the subscriber is a resident of Canada. Payments are taxable income for the subscriber and subject to an additional 20% tax (varies by province) unless transferred to an RRSP (contribution refunds are not taxable). The grant portion is returned to the Government of Canada.
- 6 In 1999, 75% of families with positive financial wealth owned their residence compared with only 44% of families with no financial wealth (Morissette 2002).
- 7 Except for trade, which represents a very small group of children.

Program awareness

Given that awareness of the CESG program was found to be associated with increased savings, it seems reasonable to conclude that making more parents aware of the program might increase savings. Parents aware of the CESG program in 2002 were from higher-income families, were more educated, lived in owned housing, and had high aspirations for their child's education. Parents of children (under 6) were also more likely to be aware of the incentive program.⁸ Parents who were saving and aware of the CESG also had higher income, were more educated, were more likely to own their residence, and had higher educational aspirations than parents who were saving but unaware of the CESG.

Parents who expected their child to receive grants based on financial need also had significantly less savings. Although families who were more likely to expect grants had lower income and lived in rental housing, a surprising 19% of children in the highest income families were expected to receive such grants. It seems improbable that all these children will receive financial help, so perhaps parents need to be better informed about the details of such programs.

	Aware of the CESG		Expected grants based on financial needs
	All	Savers only	
	%		
All children	53.2	66.5	31.9
Adjusted household income			
Less than \$15,000	35.3	48.0	41.4
\$15,000 to \$25,999	46.3	57.1	39.0
\$26,000 to \$39,999	60.2	70.7	28.9
\$40,000 and more	69.5	76.5	19.3
Parents' highest education			
High school or less	36.6	49.4	34.3
Trade	43.3	56.4	34.9
College	58.3	69.2	33.0
Bachelor	68.3	77.3	29.2
Master's or above	73.6	79.6	24.0
Family composition/labour force status			
Two parents – two working	60.0	70.4	28.0
Two parents – one working	53.1	65.6	34.1
One parent – one working	43.3	57.2	36.7
Parent(s) – none working	32.5	50.1	41.6
Other family types	29.2 ^E	37.5 ^E	33.0 ^E
Ownership/mortgage			
Owner with mortgage	58.7	69.0	29.5
Owner without mortgage	60.4	72.5	24.5
Renter	38.3	50.6	41.0
Hope for post-secondary education			
None	37.4	51.8	34.8
Trade	38.9	51.0 ^E	30.0
College or CEGEP	39.4	52.5	33.6
University	59.0	70.3	32.0
Other	54.8	67.9	24.0
Age			
0 to 5	62.1	73.5	33.1
6 to 12	52.0	65.6	35.9
13 to 18	47.2	61.3	26.2

Source: Survey of Approaches to Educational Planning, 2002

8 A logistic regression model was run, and for those variables, the coefficients of the categories were significantly different from the reference group.

9 It could be argued that paying off a mortgage and building home equity is another way to save for postsecondary education, but it is difficult to verify this hypothesis. If true, this could explain in part why households with a mortgage had lower savings.

10 An OLS regression model was estimated on savers only to determine if savers who knew about the CESG had more cumulative savings than savers who did not know about it. The coefficient of being aware of CESG was not significant, suggesting that being aware of this program increases the likelihood of taking the decision to save only and not the amounts saved.

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Housing costs of elderly families

Raj K. Chawla and Ted Wannell

Residential property taxes are on the rise in many Canadian municipalities, although the reasons for the upward pressure may vary from region to region. While all homeowners feel the burden of rising property taxes, concerns are often raised for elderly homeowners since most of them live on fixed incomes. In fact, some municipalities offer tax rebates for senior homeowners. Other policies, such as tax credits in some provinces, aim to relieve the housing cost burden for all low-income individuals and families.

Taxes can be regressive or progressive. A tax is termed regressive if its rate decreases as income rises. And property taxes are demonstrably regressive with respect to family income (Boadway and Kitchen 1999; Chawla and Wannell 2003; Maslove 1973; OFTC 1993). The income tax system is progressive since to some extent it is based on ability to pay.¹

Property tax, on the other hand, does not take this notion of ability to pay into account, and is instead levied on the assessed (market) value of property owned. Indeed, elderly low-income homeowners pay a greater proportion of their income on property taxes than their non low-income counterparts: 11.7% compared with 4.2% (Chawla and Wannell 2003). On the other hand, non low-income families have their income taxed at a rate more than five times that of their low-income counterparts (17.8% compared with 3.4%). Rising property taxes may create economic hardship for elderly homeowners with low incomes.

Concerns about the property tax burden for seniors are often related to the long period that many have lived in their homes, resulting in a discrepancy between the assessment base (the current market value of the home) and their ability to pay. The recent surge in resi-

dential housing prices has often been greatest in mature neighbourhoods with concentrations of older homeowners. Thus a general rise in mill rates (tax paid per dollar of assessment) and a relatively high increase in assessed value can create a problem for many elderly homeowners in these neighbourhoods.

Furthermore, senior families generally live on fixed incomes with little prospect of their income rising to meet expense increases that exceed cost-of-living adjustments to their public pensions. In contrast, young low-income families are at the start of their careers, and most can expect their earnings to increase with labour market experience.

But taxes are just part of the financial picture of families. While rising house prices may stimulate higher property taxes, they also represent a source of untaxed capital gains. Furthermore, the vast majority of elderly homeowners no longer carry a mortgage, which constitutes the largest component of shelter costs for the majority of younger homeowners. This article examines housing costs within the context of income and assets. The primary focus is on elderly homeowners, but younger families and renters are included for comparison. Since low-income families are also of interest to policymakers, this dimension is explored as well (see *Data source and definitions*).

Most senior families own their home mortgage-free

Although one can imagine scenarios where couples downsize their housing once children leave, or move into rental accommodation in their senior years, most elderly families own their home and have been there for some time (Table 1). In 1999, two-thirds of families with a major income recipient 65 or over owned their home. Furthermore, with an average of 25 years in the same home, 9 in 10 of these families had completely paid off their mortgages. Overall, 60% of senior families lived in their own home mortgage-free.

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Table 1: Homeownership by age of major income recipient

	Total	Renters	Owners	
			No mortgage	With mortgage
65 and over				
All families	2,231,800	732,100	1,353,000	146,700
%	100.0	32.8	60.6	6.6
Low-income families	253,100	173,400	70,500	9,200
%	100.0	68.5	27.8	3.6
Under 65				
All families	9,959,300	4,097,100	2,021,500	3,840,600
%	100.0	41.1	20.3	38.6
Low-income families	1,870,400	1,508,000	153,900	208,500
%	100.0	80.6	8.2	11.1

Source: Survey of Financial Security, 1999

Among families with a major income recipient under 65, the rate of homeownership was somewhat lower—just under 6 in 10. However, given their lower average tenure, nearly two-thirds were still carrying a mortgage. Overall, just 1 in 5 non-senior families owned their accommodation mortgage-free.

Looking more specifically at low-income households, the rate of homeownership is again higher

among elderly families (31%) than among younger families (19%). While the vast majority of low-income senior homeowners did not carry a mortgage (88%), well over half of their younger counterparts (58%) did. Overall, more than 1 in 4 low-income senior families (28%) owned their accommodation free and clear compared with just 8% of other low-income families.

Elderly families' homes have appreciated through long tenure

As mentioned, many seniors have achieved their mortgage-free status by virtue of staying put and steadily chipping away at their mortgage principal. In addition to their debt shrinking, something else was happening—the value of their home was rising. In 1999, the average estimated home equity of home-owning senior families was \$138,000, of which \$83,000 (or 60%) was appreciation from the original purchase price (Table 2).

Younger homeowners generally had less equity and had not owned their home long enough to experience the same kind of appreciation as senior families. Families in which the major income recipient was between 45 and 64 had nearly as much equity in their homes as senior families (\$131,000), but significantly less appreciation in value (\$61,000 or 46% of the equity). Families with a major income recipient under 45 had far less home equity (\$76,000 on average) and appreciation (\$22,000) than older families.

Table 2: Home equity, appreciation and wealth by age of major income recipient

	Home equity (E)	Appreciation (A)	Wealth (W)	E/W	A/W	A/E	Average tenure
		\$			%		years
All ages	109,200	48,900	386,000	28.3	12.7	44.8	13.4
Under 45	75,600	22,000	236,500	32.0	9.3	29.1	7.1
45 to 64	131,000	60,600	505,500	25.9	12.0	46.3	14.2
65 and over	137,700	83,300	468,500	29.4	17.8	60.5	25.2

Source: Survey of Financial Security, 1999

Data source and definitions

The **Survey of Financial Security (SFS)** was conducted between May and July 1999. The sample contained 23,000 dwellings from the 10 provinces. Excluded were persons living on Indian reserves, members of the armed forces, and those living in institutions such as prisons, hospitals, or homes for seniors. The SFS interview questionnaire is available free through the 'Definitions, data sources, and methods' module on the Statistics Canada Web site (www.statcan.ca). For more details about the sample, response rates, handling of missing data, weighting, and so forth, see *The assets and debts of Canadians: An overview of the results of the Survey of Financial Security* (Catalogue no. 13-595-XIE).

The survey collected socio-demographic and labour force characteristics of persons aged 15 and over, and assets and debts of their families. Income for 1998 was compiled from authorized linkage to tax records or collected in person, although respondents could also complete the questionnaire themselves. Financial information was sought from the family member most knowledgeable about the family's finances. Proxy response was accepted.

The survey asked about major ongoing expenses associated with the principal residence: mortgage payments, property taxes (including school taxes, if paid separately), rent, electricity, water, and other services. Rent was not apportioned to property tax, utility charges, or landlord's share. Although expenses could be reported monthly or quarterly, they were processed and compiled on an annual basis.

Missing property tax data were not imputed, so homeownership families who did not report property taxes paid in 1998 were excluded from the sample. Thus Tables 1, 3 and 4 are based on a sample of 15,886 or an estimated 12,187,000 families. On the other hand, Table 2 uses a sample of 8,835 or 6,323,000 homeownership families who, in addition to property taxes, reported year and purchase price of property. Families who had inherited or been gifted all or part of the property were not to report such information.

Quality of survey data on property taxes

The SFS estimate of property taxes paid in 1998 was \$12.6 billion, compared with \$18.3 billion published by the Public Institutions Division (PID) of Statistics Canada (Statistics Canada 2003). The PID data for 1998 are based on a census of municipalities obtained from provincial departments of municipal affairs. One would expect a higher estimate from the administrative data simply because of differences in coverage. While the SFS covers only owner-occupied dwellings, the administrative data also include rented and vacant dwellings as well as non-residential (commercial and industrial) properties. Overall, the SFS/PID ratio of property taxes was 69.2%.

Property: Refers to an owner-occupied home or farm. Property owned but used for rental or business purposes is excluded.

Family: Refers to economic families and unattached individuals. An economic family is a group of persons sharing a common dwelling and related by blood, marriage (including common law) or adoption. An unattached individual is a person living alone or with unrelated persons.

Elderly family: One with a major income recipient aged 65 or over.

Major income recipient: The person in the family with the highest income before tax. If two persons had exactly the same income, the older person was treated as the major income recipient.

Pre-tax family income: Sum of incomes received by the six oldest family members aged 15 and over during the calendar year 1998 from all sources: wages and salaries, net income from farm and non-farm self employment, investment income (interest earned, dividends, net rental income, etc.), government transfers (Employment Insurance benefits, Old Age Security, child benefits, Canada or Quebec Pension Plan benefits, social assistance, etc.), retirement pension income, alimony and scholarships. Excluded are income in kind, tax refunds, gambling gains, and inheritances.

Low-income family: Families are classified using the after-tax, low-income cut-offs for 1998 (Statistics Canada 1998).

Income tax paid: Federal and provincial income tax paid during the calendar year 1998 by all family members.

Market value of owner-occupied home: As reported at the time of the survey by the family member most knowledgeable about the family finances. It is not an assessed value, which is usually less than the market value.

Purchase price of home: Price initially paid (down payment plus any mortgage) for the home occupied at the time of the survey.

Appreciation in home value: Market value less purchase price.

Home equity: Market value of owner-occupied home less outstanding mortgage.

Years of residence: 1999 less the year the current home purchased. It is not necessarily the first home ever owned.

Shelter cost is a standard concept that includes mortgage payments and property taxes for owner-occupied residences, rent payments for renters, and utility payments and insurance for both groups. **Housing cost** in this article refers to shelter cost net of utility payments and insurance.

Effective property tax rate: Property tax paid as a percentage of market value.

Gini coefficient: A measure of inequality in the distribution of income, it lies between 0 (no inequality) and 1.0 (total inequality—that is, one family has all the income).

These differences in equity and appreciation are directly related to the housing tenure of younger and older families. Families with a major income recipient under 45 had lived in their homes just over seven years. That doubled to 14 years among families with a major income recipient between 45 and 64, then shot up to 25 years among senior families.

The long tenure of senior families and the resulting appreciation of their homes can result in property tax rises. Taking the country-wide average property tax rate of 1.22% (Chawla and Wannell 2003) as a rough guideline, senior homeowners paid about \$1,000 of property taxes in 1999 on appreciation. This may present a problem for some seniors on fixed incomes. On the other side of the ledger, capital gains on the principal residence are not subject to income tax, so appreciation can be a direct contributor to family wealth. Moreover, 9 in 10 senior homeowners no longer face monthly mortgage payments, which, on average, greatly exceed property tax payments. For example, among all homeowners with mortgages, annual mortgage payments (\$9,500) averaged more than five times the annual tax bill (\$1,700).

Senior homeowners have greater income and wealth than renters

In any discussion of tax reform, the broader financial situation of different groups must also be considered. With reference to property taxes, the comparison group for homeowners would be those living in rental accommodation, since different mechanisms would be necessary to provide equivalent benefits.

Inequality increases with housing tenure

The pre-tax income distribution of homeownership families becomes more unequal as time in the home increases. The Gini coefficient—an indicator that rises as inequality rises—was 0.320 for families with less than 5 years of residence compared with 0.409 for those with 30 or more years. Years of residence also reflects the aging of the family's major income recipient—hence, the distribution of income among families becomes more unequal as the major income recipient ages. This means that pre-tax income inequality among the elderly would be higher than among the non-elderly—confirmed by their respective Gini coefficients of 0.377 and 0.332.

Regardless of the income concept used, family income inequality grew as tenure increased. The relationship was relatively less pronounced for elderly families than for non-elderly. The after-tax family income Gini coefficient was 9% higher for the long-tenured elderly than for those with less than 5 years in the same residence. The comparable difference among the non-elderly was 30%.

Income taxes reduce family income inequality—the Gini coefficient always drops from pre-tax income when income tax is netted out. On the other hand, property taxes raise inequality—the post-property tax Gini is always higher.

Gini coefficients for income under different concepts by tenure

	Total pre-tax	Less property tax	Less income tax	Less property and in- come tax
Tenure				
All families	0.356	0.363	0.316	0.324
Under 5 years	0.320	0.326	0.288	0.295
5-14 years	0.342	0.349	0.305	0.312
14-29 years	0.370	0.378	0.325	0.333
30 years and over	0.409	0.420	0.353	0.364
Major income recipient 65+	0.377	0.387	0.314	0.323
Under 5 years	0.342	0.352	0.295	0.305
5-14 years	0.350	0.360	0.303	0.313
14-29 years	0.377	0.387	0.313	0.322
30 years and over	0.395	0.406	0.322	0.331
Major income recipient under 65	0.332	0.338	0.298	0.304
Under 5 years	0.312	0.318	0.281	0.288
5-14 years	0.327	0.332	0.292	0.298
14-29 years	0.347	0.353	0.307	0.314
30 years and over	0.390	0.399	0.365	0.376

Source: Survey of Financial Security, 1999

Senior homeowners had substantially higher incomes (\$41,000) than senior renters (\$23,000). Furthermore, senior homeowners had accumulated more than three times the wealth (Table 3). Even if one subtracts home equity, which accounts for 30% of the wealth of senior homeowners, their holdings of other assets were more than double those of renters.

Some of the difference in the wealth of senior homeowners vis-à-vis renters can be accounted for by demographic factors. The average renter was about two years older than the average homeowner and thus may have exhausted more savings.² Moreover, senior families in rental

Table 3: Mean family income and wealth by homeownership and age of major income recipient

	Renters	Owners		
		Total	No mortgage	With mortgage
65 and over				
Families	732,100	1,499,600	1,353,000	146,700
Income (\$)	23,000	40,900	40,400	44,900
Wealth (\$)	116,200	438,200	446,200	364,200
Under 65				
Families	4,097,100	5,862,100	2,021,500	3,840,600
Income (\$)	30,800	68,900	71,800	67,300
Wealth (\$)	47,100	357,500	572,700	244,200

Source: Survey of Financial Security, 1999

accommodation were smaller (1.3 people on average) than homeownership families (1.8 people). However, using either a per-person measure or an equivalency measure would still leave a sizeable gap in both income and wealth between renters and owners.³

Low-income renters and owners

Among senior families falling below the low-income cutoff, the incomes of renters and owners were very similar: \$12,000 and \$14,000 respectively. Since renter families were slightly smaller—1.1 compared with 1.4—they actually had higher incomes on a per-person basis. On the other hand, the low-income owners held nearly 10 times the wealth of renters. Even if home equity is taken out of the equation, low-income homeowners held almost five times as much in other assets as low-income renters. Moreover, among low-income senior families, the age factor is reversed: Owners were about 1.5 years older, on average, than renters.

Low-income families with a major income recipient under 65 often receive transfer payments and tax rebates. In 1999, their incomes were similar to senior low-income families—a little higher for owners, a little lower for renters. However, their families were larger, so income per person or equivalency-adjusted income would be substantially lower than for senior families. Although the wealth of younger low-income homeowners was three-quarters that of their senior counterparts, younger renters held less than half the wealth of senior renters. However, the age gap between renters and owners was much larger (9.8 years) among non-senior, low-income families, so the relative youth of renters was a major contributing factor to their lack of wealth.

Rent, mortgage payments and property taxes for low-income families

Among low-income families, renters paid close to half of their income to a landlord: 43% for senior families, 49% for families with a major income recipient under 65 (Table 4). The relative cost burden for homeownership low-income families depends critically on whether they still carry a mortgage. Those with no mortgage spent 12 to 13% of their income on property taxes. Those who carried a mortgage typically spend more than half of their income on the combination of mortgage and tax payments: 56% for senior families and 65% for families with a major income recipient under 65.

In fact, the relative burden faced by mortgage-paying, low-income families is even greater than this comparison suggests. For example, homeowners pay their utilities separately while most renters have theirs included in the rent. Similarly, homeowners pay higher insurance premiums than renters since they must cover the cost of the structure as well as the contents. Rough calculations indicate that these two expenditures would consume about 15 to 20% of a low-income homeowner's income, compared with less than 6% for renters.⁴

Overall then, low-income homeowners without mortgages spent about a third of their income on shelter costs compared with about half for low-income renters. Data suggest that low-income mortgagees could be spending upwards of three-quarters of their income on shelter costs, indicating that many are probably running down their savings to stay in their homes.

Table 4: Mortgages, property taxes and rent as a percentage of income by age of major income recipient*

	Renters	Owners	
		No mortgage	With mortgage
65 and over	732,100	1,350,700	144,400
Mortgage	...	...	14.3
Property taxes	...	4.3	3.7
Rent	29.2	...	...
Non low-income	558,700	1,282,500	137,500
Mortgage	...	...	14.0
Property taxes	...	4.2	3.6
Rent	27.0	...	...
Low-income	173,400	68,200	6,900
Mortgage	...	...	43.1
Property taxes	...	11.7	12.4
Rent	43.5	...	...
Under 65	4,097,100	2,021,500	3,840,600
Mortgage	...	...	14.3
Property taxes	...	2.8	2.6
Rent	20.2	...	...
Non low-income	2,589,200	1,867,600	3,632,100
Mortgage	...	...	13.7
Property taxes	...	2.7	2.5
Rent	16.1	...	...
Low-income	1,508,000	153,900	208,500
Mortgage	...	...	54.8
Property taxes	...	13.2	9.5
Rent	48.7	...	...

Source: Survey of Financial Security, 1999

* Excludes homeownership families that did not report property tax.

Conclusion

In 1999, about 9 in 10 senior homeowners had completely paid off their mortgage. Their mortgage-free status and home equity resulted in relatively low housing costs (including property taxes) and greater wealth than enjoyed by senior renters or younger homeowners.

Among low-income families, mortgage-free homeowners were also relatively advantaged compared with renters, and particularly so compared with homeowners still carrying mortgages. However, less than 10,000 senior low-income families carried mortgages, com-

pared with more than 200,000 low-income families with a major income recipient under 65. These numbers, in turn, pale in comparison with the throng of low-income renters—more than 1.5 million families. These families—senior or younger—spend about half of their income on shelter costs.

What these data do not reflect is the surge in housing prices since 1999. Between the first quarters of 1999 and 2004, new house prices increased by over 18%, and resale prices by one-third.⁵ Since property taxes are calculated as a percentage of the value of the house, property taxes probably rose by a similar amount, assuming a constant tax rate. In contrast, the consumer price index was up by less than 13% in the same period. So property taxes have probably become somewhat more burdensome for those on fixed incomes.

On the other hand, with an average property tax rate of 1.22%, homeowner equity has gone up by \$1,000 for every \$12 increase in the tax bill. This increased wealth presents some options to the homeowner—for example, selling and moving to a less expensive house or condominium or into rental accommodation. Reverse mortgages and equity-secured lines of credit are also available to provide income for those wishing to remain in their home.

A number of proposals regarding municipal financing are currently under consideration in different jurisdictions, but unless they result in wholesale changes to the property tax structure, the distribution of the shelter cost burden is unlikely to change significantly.

Perspectives

Notes

1 Ability to pay implies that those who pay more income tax have higher incomes. Families with very low incomes are exempted from paying any at all. Other concepts underlying income tax include equity, allocation, efficiency, and redistribution (Boadway and Kitchen 1999).

2 However, Williams (2003) has demonstrated that most seniors continue to save well past age 65.

3 Equivalency scales recognize economies of scale relating to shared household expenses. The scales vary and their application to wealth is not well-developed, so their application was judged to be beyond the scope of this article.

4 The Survey of Financial Security collected information on utilities and insurance payments, but non-response was relatively high, making detailed estimates unreliable.

5 Resale price increases are based on Bank of Canada published figures using the Royal LePage resale price index.

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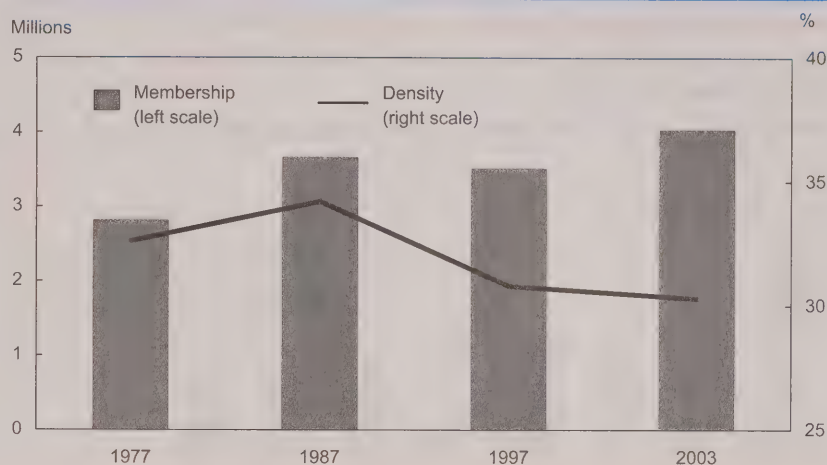
The union movement in transition

Ernest B. Akyeampong

Membership in a union offers several advantages. Not only do unionized workers generally receive higher wages (Fang and Verma 2002), they are also more likely to enjoy non-wage benefits such as coverage in employer-sponsored pension, dental or medical plans (Akyeampong 2002). In addition, their greater accessibility to a grievance or dispute settlement system is thought to provide greater protection against exploitation, abuse or unfair treatment by their employer (Akyeampong 2003).

In light of these advantages, the continuous increase in union membership over the past decades is not surprising: the union ranks rose from 2.8 million in 1977 to just over 4 million in 2003 (Chart A). However, as in many other Western industrialized countries, growth has not kept pace with employment increases.¹ As a result, the unionization rate (or density)—the proportion of employees belonging to a union—has fallen over the years. After rising slightly from 32.6% in 1977 to 34.2% in 1987, it drifted downwards, oscillating between 30% and 31% over most of the past decade (Chart A).²

Chart A: Union membership rose 43% between 1977 and 2003, but density changed little.



Sources: CALURA, 1977-1987; Labour Force Survey, 1997-2003

Although the unionization rate did not change much, the same cannot be said for the membership mix by sex, industry, job status, and so forth. Several, often interrelated factors account for the changing profile of union membership—notably, employee demographics; labour laws and regulations, especially provincial; industry shifts, especially from goods to services; the occupation mix of the workforce; and the effectiveness of union recruitment and retention.

Using various sources, this article first looks at how union membership has evolved over the past several decades, including some of the factors behind the changes (see *Data sources*). Then, using data from the post-1996 Labour Force Survey, it details where the union movement has gained or lost membership and density in recent years.

Long-term trends

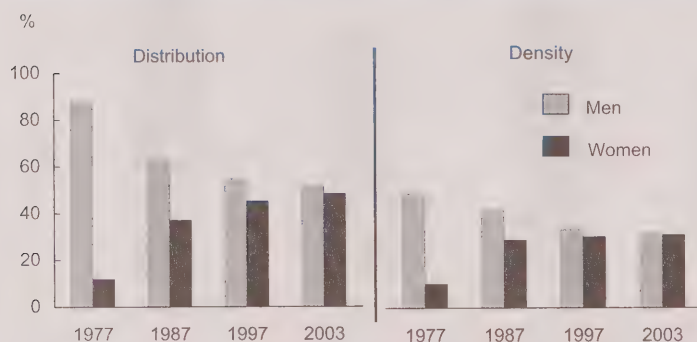
Constructing a historical profile of union membership in Canada is not easy, partly because no consistent and all-encompassing series exist. Aggregate union membership estimates date from 1911; some

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indicators are available from the 1960s and 1970s (membership by-sex and regional dispersion), but others start in the 1980s or later (age, industry, occupation, public³ versus private sector, and full- versus part-time work.)

Undoubtedly, the biggest and most profound transformation in union membership lies in the mix of men and women. From a mere 12% in 1977, the share of women has risen steadily to nearly half (48%) in 2003 (Chart B). This extraordinarily strong and growing presence is accounted for by several, often interrelated factors. These include the growing proportion of women in the paid workforce; their increased presence in the heavily unionized

Chart B: Women's union density and membership share matched men's by 2003.



Sources: CALURA, 1977-1987; Labour Force Survey, 1997-2003

public sector; their movement into traditionally male-dominated and often heavily unionized industries or occupations such as construction; the rising unionization among part-time and non-permanent workers; and the expansion of union activity into traditionally female-dominated and hitherto non- or less-unionized workplaces, especially in the service sector (Akyeampong 1998).

The growing number of women in the union movement is reflected in changing density rates by sex. For women, the rate rose steadily, from 10% in 1977 to 30% in 2003. For men, the reverse occurred. Partly in line with the changing structure of the Canadian economy and labour force, the men's rate fell steadily, from 47% in 1977 to 31% in 2003. In summary, while women's unionization rate was less than one-quarter of men's in 1977, the two were virtually identical by 2003.

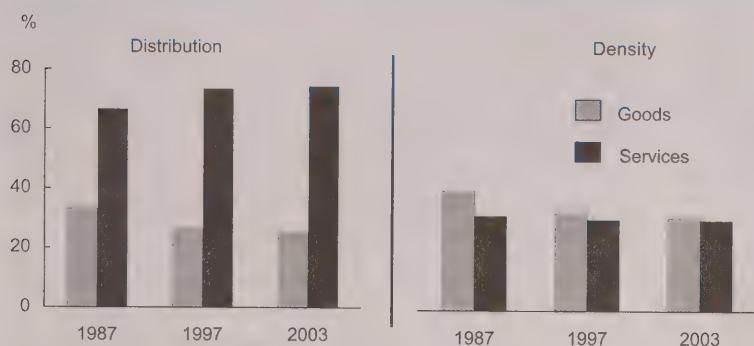
Another notable transformation has been the declining share of membership in the goods sector and an increase in the service sector. This can be attributed primarily to a shift in the economic structure, resulting in employment drops in the once heavily unionized, male dominated, goods-producing industries, especially manufacturing, in favour of the service industries. In 1987, the goods sector accounted for roughly one-third of total union membership, compared with only one-quarter in 2003 (Chart C). In terms of union density, the gap between the goods sector and the service sector in 1987 (40% versus 31%) had almost disappeared by 2003 (31% versus 30%).

Regionally, union membership share did not change much over the past several decades, remaining roughly in line with regional shares of national employee counts (Table 1). However, estimated union membership can sometimes present a false portrait of union strength in an area. The density rate is a better measure for comparison. Quebec recorded the highest rate throughout the period (38% in 2003). Other regions mostly registered declines, the steepest being in British Columbia. Ontario's 27% was the lowest rate in 2003.

Table 1: Union membership, distribution and density by region

	Total	Atl.	Que.	Ont.	Prairies	B.C.
Distribution	'000			%		
1977	2,817	7.7	27.6	37.5	13.3	13.8
1987	3,662	7.6	28.2	37.2	14.4	12.5
1997	3,516	6.9	28.4	35.1	15.0	14.6
2003	4,036	6.8	29.4	35.4	15.3	13.2
Density				%		
1977	32.6	34.1	34.7	31.0	26.8	40.9
1987	34.2	36.9	39.6	31.0	30.1	38.6
1997	30.8	30.3	36.9	27.7	27.1	34.0
2003	30.3	29.3	37.6	26.8	27.1	32.4

Sources: CALURA, 1977-1987; Labour Force Survey, 1997-2003

Chart C: Union membership declined in the goods sector but rose in services.

Sources: CALURA, 1987; Labour Force Survey, 1997-2003

Also noteworthy have been changes in representation among full- and part-time workers, and in the public and the private sectors. Part-time workers saw both a share increase (from 8% to 14%) and a rise in density (from 18% to 23%) between 1984 and 2003 (Table 2). The increases were widespread. The reverse was true for full-time workers, who saw their share decline (92% to 86%) as well as their density (39% to 32%).

During the 1960s, the rapid expansion of government and the extension of bargaining rights to most of its employees saw the public sector take a more prominent position in the union movement (Eaton 1976; Galarneau 1996). Since then, the influence of this group has continued to grow, its representation rising from 42% in 1984 to 53% in 2003. In terms of density, the rate among public-

Table 2: Union membership, distribution and density by sector and work status

	Total	Public	Private	Full-time	Part-time
Distribution	'000			%	
1984	3,474	42.2	57.8	91.7	8.3
1997	3,516	52.6	47.4	87.1	12.9
2003	4,036	53.5	46.5	85.9	14.1
Density			%		
1984	35.5	71.8	25.9	38.7	18.5
1997	30.8	69.7	19.0	32.9	21.4
2003	30.3	72.0	18.2	31.8	23.3

Sources: Survey of Union Membership, 1984; Labour Force Survey, 1997-2003

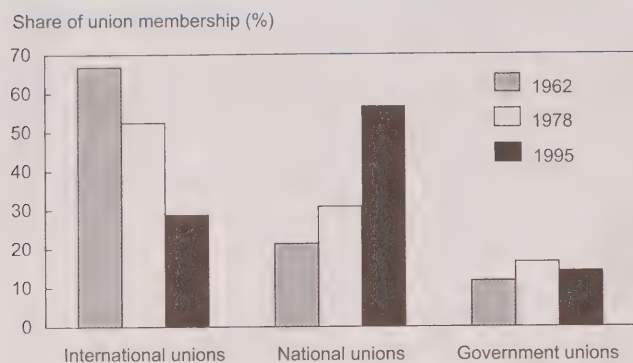
sector workers (just over 70%) changed little, while falling from 26% to 18% among private-sector workers. Indeed, stability in the public sector prevented overall union density in Canada from falling below 30%.⁴

Another profound change over the past several decades has been the waning influence of international unions (those with headquarters outside Canada). An important objective of the Corporations and Labour Unions Returns Act (CALURA) was to monitor the extent and effect of international unions on organized labour in Canada. The available CALURA data show a dramatic and steady shift away from international to national unions between 1962 and 1995 (1995 being the last collection year under CALURA) (Mainville and Olinek 1999). In 1962, international unions accounted for about two-thirds of union membership in Canada; by 1995, this had fallen to 29% (Chart D). In contrast, national union representation rose from 21% to 57%. The decline of international unions resulted mainly from defections to competing national unions and breakaways to form new autonomous national unions—the breakaway of the 136,000-strong Auto Workers Union Canadian membership in 1986 being notable (Statistics Canada 1994).

Throughout the period under review, the share of government unions (consisting of federal and provincial government employees) stayed in the 12% to 17% range.⁵ After 1995, the international union share declined slightly to a little over 27% in 2003 (HRDC 2003).⁶

Recent gains and losses

For simplicity, only 1997 and 2003 (the first and latest years) of the revised Labour Force Survey series are shown, but the directions (or algebraic signs) of changes between these two years are reasonably representative of recent trends (not shown) in union strength by different worker groups.

Chart D: International unions have lost significant ground.

Source: CALURA

Changes in union density form the basis for comparing the trends of different worker groups.⁷ A positive change signifies a gain in union presence, and vice versa. To facilitate comparison, data are presented in descending order of change between 1997 and 2003.

Demographic

Overall, union density decreased by 0.5 percentage points between 1997 and 2003 (Table 3)—not because of a loss in membership, but because employment growth (16.7%) surpassed the gain in union membership (14.8%). Continuing the trend established over the past several decades, the rate rose by 0.7 points among women employees, but fell by 1.6 points among men. The largest increase occurred among youth (15 to 24, up 2.7 points). Workers in all other age groups (except 55 and over) saw some losses, with the largest decline among those 45 to 54 (-2.8 points).

Although the workforce has become more educated, only those with some postsecondary education recorded a slight growth in unionization. All other groups, including workers holding university degrees, recorded declines. The large fall in the rate among those with less than grade 9 education coincides with a large decline in union membership among some blue-collar workers.

Industry

Losses of union strength in the goods-producing industries in recent years were not offset by gains in the service-producing industries—both sectors lost

Table 3: Union membership and density by age, sex and education (by descending order of density change)

	Employees		Union members		Union density		Change 1997-2003		
	1997	2003	1997	2003	1997	2003	Empl- yees	Members	Density
	'000		'000		%		%	%	% point
Total	11,421	13,333	3,516	4,036	30.8	30.3	16.7	14.8	-0.5
Sex									
Women	5,437	6,513	1,593	1,954	29.3	30.0	19.8	22.7	0.7
Men	5,984	6,820	1,923	2,082	32.1	30.5	14.0	8.3	-1.6
Age									
15 to 24	1,891	2,298	204	310	10.8	13.5	21.5	52.0	2.7
55 and over	898	1,382	316	501	35.2	36.3	53.9	58.5	1.1
25 to 44	6,322	6,636	1,990	1,994	31.5	30.1	5.0	0.2	-1.4
45 to 54	2,309	3,017	1,006	1,231	43.6	40.8	30.7	22.4	-2.8
Education									
Some postsecondary	1,158	1,373	262	317	22.6	23.1	18.6	21.0	0.5
Postsecondary certificate or diploma	3,775	4,548	1,294	1,540	34.3	33.9	20.5	19.0	-0.4
High school graduate	2,390	2,746	677	757	28.3	27.6	14.9	11.8	-0.7
University degree	2,071	2,715	744	944	35.9	34.8	31.1	26.9	-1.1
Some high school	1,564	1,561	389	364	24.9	23.3	-0.2	-6.4	-1.6
Less than grade 9	463	391	150	115	32.4	29.4	-15.6	-23.3	-3.0

Source: Labour Force Survey

ground between 1997 and 2003. While the service-sector loss was slight (-0.2 points), the goods sector was down a sizeable 1.6 points.

Workers in the fast-growing information technology industries appear less attracted to the union movement. Many do not feel they fit into the typical 9 to 5 mould (Galarneau 1994). They often work atypical hours, have several workplaces (including home), and own stock in their company (Luffman 2003).

Union density increased in the already heavily unionized public sector (2.3 points), but fell slightly in the private sector.

At a more detailed industry level, the biggest gains occurred in public administration, particularly among workers in local government (5.5 percentage points)—the result of employment falling more than union membership. Federal government workers also saw a large gain (3.2 points), while the rate among their provincial counterparts remained almost unchanged (Table 4). Construction was the other major industry to register a significant increase (2.8 points).

Union density losses of more than 2 percentage points were registered for workers in non-durable and durable manufacturing; information, culture and recreation; and natural resource industries.

Table 4: Union membership and density by industry (by descending order of density change)

	Employees		Union members		Union density		Change 1997-2003		
	1997	2003	1997	2003	1997	2003	Emple- ees	Members	Density
Industry	'000		'000		%		%	%	% point
Service-producing	8,540	9,994	2,584	3,007	30.3	30.1	17.0	16.4	-0.2
Goods-producing	2,881	3,339	933	1,029	32.4	30.8	15.9	10.3	-1.6
Major industry groups									
Local administration	298	254	177	165	59.4	64.9	-14.8	-6.8	5.5
Federal administration	269	320	178	221	66.0	69.2	19.0	24.2	3.2
Construction	483	644	144	210	29.9	32.7	33.3	45.8	2.8
Finance and insurance	575	602	46	54	8.1	9.0	4.7	17.4	0.9
Educational services	876	1,001	598	691	68.2	69.0	14.3	15.6	0.8
Health care and social assistance	1,186	1,482	623	792	52.6	53.4	25.0	27.1	0.8
Retail trade	1,420	1,677	192	238	13.6	14.2	18.1	24.0	0.6
Professional, scientific and technical	489	653	20	29	4.1	4.5	33.5	45.0	0.4
Utilities	116	131	78	89	67.4	67.7	12.9	14.1	0.3
Provincial administration	226	241	160	171	70.7	71.0	6.6	6.9	0.3
Agriculture	121	120	4	4	3.3	3.5	-0.8	0.0	0.2
Other services	464	482	42	44	9.0	9.2	3.9	4.8	0.2
Real estate and leasing	162	186	12	14	7.6	7.6	14.8	16.7	0.0
Business, building and other support services	332	469	43	60	12.9	12.9	41.3	39.5	0.0
Accommodation and food services	783	922	62	68	7.9	7.4	17.8	9.7	-0.5
Wholesale trade	372	482	39	45	10.4	9.4	29.6	15.4	-1.0
Transportation and warehousing	578	629	248	262	43.0	41.7	8.8	5.6	-1.3
Non-durable manufacturing	822	913	273	282	33.2	30.9	11.1	3.3	-2.3
Information, culture and recreation	510	596	144	151	28.1	25.4	16.9	4.9	-2.7
Natural resources	245	239	69	60	28.2	24.9	-2.4	-13.0	-3.3
Durable manufacturing	1,094	1,291	364	384	33.3	29.8	18.0	5.5	-3.5
Sector									
Public	2,654	2,998	1,850	2,159	69.7	72.0	13.0	16.7	2.3
Private	8,766	10,335	1,667	1,877	19.0	18.2	17.9	12.6	-0.8

Source: Labour Force Survey

Occupation

In terms of occupation, by far the largest inroads occurred among workers in the strongly growing childcare and home support field (7.2 percentage points), followed by those in other already heavily unionized health occupations, such as health support staff (3.3 points), nursing (2.9 points), and professional health workers (2.1 points) (Table 5). Significant gains were also made in the recruitment of workers in construction trades (2.9 points), and in culture and recreation (2.2 points). The largest losses were recorded among technical health workers—mostly health, medical, dental, and veterinary technologists and therapists (-4.1 points)—and among those in other trades (-3.1 points). Other occupations registering more than a

2-point decline were clerical, management, and natural and applied sciences, the last having a sizeable concentration of information-technology workers.

Job status and workplace size

In a drive for greater revenue and influence, union leaders have succeeded in making significant gains in recent years in many hitherto less-unionized workplaces and work groups. For example, density rose among part-time workers (1.9 points), non-permanent employees (2.4 points), and persons with short job tenure (less than five years) (Table 6). These increases prevailed by sex, age, industry and occupation. The rate fell among full-time workers, persons in permanent jobs, and those with tenure longer than five years.

Table 5: Union membership and density by occupation (by descending order of density change)

Occupation	Employees		Union members		Union density		Change 1997-2003		
	1997	2003	1997	2003	1997	2003	Emple- yees	Members	Density
	'000	'000	'000	'000	%	%	%	%	point
Childcare and home support	200	250	63	96	31.4	38.6	25.0	52.4	7.2
Support staff (health)	162	248	82	134	50.8	54.1	53.1	63.4	3.3
Nursing	222	257	173	208	78.1	81.0	15.8	20.2	2.9
Construction trades	191	243	72	99	37.7	40.6	27.2	37.5	2.9
Culture and recreation	228	295	56	79	24.5	26.7	29.4	41.1	2.2
Health professionals	77	86	31	36	39.9	42.0	11.7	16.1	2.1
Legal, social and religious	321	413	124	165	38.6	40.0	28.7	33.1	1.4
Secondary/elementary teachers	361	408	316	361	87.4	88.6	13.0	14.2	1.2
Retail	790	1,000	94	128	12.0	12.8	26.6	36.2	0.8
Travel and accommodation	1,052	1,220	274	327	26.1	26.8	16.0	19.3	0.7
Protective services	193	224	102	119	52.8	53.2	16.1	16.7	0.4
Wholesale	226	356	14	21	6.1	5.8	57.5	50.0	-0.3
Contractors and supervisors	86	107	27	33	31.4	31.0	24.4	22.2	-0.4
Teachers and professors	514	600	388	450	75.4	75.0	16.7	16.0	-0.4
Helpers and labourers	297	312	103	107	34.7	34.2	5.1	3.9	-0.5
Financial and administrative	741	704	166	154	22.4	21.8	-5.0	-7.2	-0.6
Unique to primary industry	248	266	42	43	16.9	16.1	7.3	2.4	-0.8
Other teachers	153	192	72	89	47.0	46.1	25.5	23.6	-0.9
Transport equipment operators	443	492	168	181	37.8	36.9	11.1	7.7	-0.9
Food and beverage	412	522	41	46	9.9	8.9	26.7	12.2	-1.0
Professional	283	325	51	55	18.0	16.9	14.8	7.8	-1.1
Labourers	227	204	90	78	39.5	38.3	-10.1	-13.3	-1.2
Machine operators and assemblers	809	1,006	318	382	39.3	38.0	24.4	20.1	-1.3
Natural and applied sciences	670	898	180	223	26.9	24.8	34.0	23.9	-2.1
Management	966	891	109	81	11.3	9.1	-7.8	-25.7	-2.2
Clerical	1,229	1,542	363	416	29.5	27.0	25.5	14.6	-2.5
Other trades	658	696	278	273	42.3	39.2	5.8	-1.8	-3.1
Technical (health)	176	178	109	102	61.6	57.5	1.1	-6.4	-4.1

Source: Labour Force Survey

Table 6: Union membership and density by job status and workplace size
(by descending order of density change)

	Employees		Union members		Union density		Change 1997-2003		
	1997	2003	1997	2003	1997	2003	Emple- yees	Members	Density
	'000		'000		%		%	%	% point
Work status									
Part-time	2,117	2,440	453	569	21.4	23.3	15.3	25.6	1.9
Full-time	9,304	10,894	3,063	3,468	32.9	31.8	17.1	13.2	-1.1
Job status									
Non-permanent	1,296	1,660	294	417	22.7	25.1	28.1	41.8	2.4
Permanent	10,124	11,673	3,222	3,619	31.8	31.0	15.3	12.3	-0.8
Job tenure									
1 to 5 years	3,287	4,473	650	1,033	19.8	23.1	36.1	58.9	3.3
1 to 12 months	2,661	2,973	342	437	12.9	14.7	11.7	27.8	1.8
9 to 14 years	1,325	1,393	556	560	41.9	40.2	5.1	0.7	-1.7
Over 14 years	2,279	2,698	1,302	1,454	57.1	53.9	18.4	11.7	-3.2
5 to 9 years	1,870	1,796	667	552	35.7	30.8	-4.0	-17.2	-4.9
Workplace size									
Under 20 employees	3,992	4,454	473	563	11.9	12.6	11.6	19.0	0.7
20 to 99 employees	3,635	4,340	1,118	1,341	30.8	30.9	19.4	19.9	0.1
100 to 500 employees	2,377	2,866	1,104	1,228	46.4	42.9	20.6	11.2	-3.5
Over 500 employees	1,416	1,673	821	904	58.0	54.1	18.1	10.1	-3.9

Source: Labour Force Survey

Table 7: Union membership and density by province (by descending order of density change)

	Employees		Union members		Union density		Change 1997-2003		
	1997	2003	1997	2003	1997	2003	Emple- yees	Members	Density
	'000		'000		%		%	%	% point
Prince Edward Island	49	58	13	16	26.9	28.3	18.4	23.1	1.4
Saskatchewan	353	386	116	133	33.0	34.3	9.3	14.7	1.3
Quebec	2,709	3,165	1,000	1,188	36.9	37.6	16.8	18.8	0.7
Alberta	1,154	1,414	258	317	22.4	22.4	22.5	22.9	0.0
Manitoba	431	478	151	167	35.1	34.9	10.9	10.6	-0.2
Ontario	4,465	5,319	1,235	1,427	27.7	26.8	19.1	15.5	-0.9
Newfoundland and Labrador	164	190	64	73	39.1	38.2	15.9	14.1	-0.9
Nova Scotia	324	379	92	104	28.4	27.4	17.0	13.0	-1.0
New Brunswick	265	303	74	80	27.9	26.4	14.3	8.1	-1.5
British Columbia	1,508	1,640	513	532	34.0	32.4	8.8	3.7	-1.6

Source: Labour Force Survey

Data sources

For over three decades (1962-1995), the *Corporations and Labour Unions Returns Act* (CALURA) was the only continuous source of union membership data by sex, industry and province. The Act required each national and international union with 100 or more members resident in Canada to submit annual financial and membership information to the federal government. Statistics Canada was charged with administering the Act. The Act was amended in 1995, removing the reporting requirement for unions. The final published CALURA data therefore relate to 1995 (Mainville and Olinek 1999).

In January 1997, the redesigned Labour Force Survey (LFS) began to collect and publish monthly, dimensionally enriched, membership and coverage estimates—by sex, age, province, industry, occupation, firm size, education, wage rate, etc. (Coverage includes the roughly 2% of employees who are not union members but whose terms of employment are covered by collective agreements.) A comparison of CALURA and LFS estimates (and other household surveys) suggests that overall density rates are marginally higher under CALURA, but that the trends are fairly similar (Galarneau 2003).

Differences emerge for a number of reasons:

- For CALURA, the reference period was December 31 of each year; the LFS annual estimates are the weighted averages of the weekly data collected around the middle of each month.
- CALURA was a census of unions with 100 or more members; the LFS is based on a sample of households and imposes no restrictions on union size.

- Multiple jobholders could belong to different unions in each job and be counted twice in CALURA; in the LFS they are counted only once, and if the main job is not unionized, they are not counted at all.
- Some retirees and pensioners were included in CALURA; they are excluded in the LFS.

The 1984 estimates for public- and private-sector, full- and part-time workers (CALURA did not collect these details) come from the Survey of Union Membership, an LFS-supplement conducted in co-operation with Labour Canada in October 1984. As such, they have some seasonality drawbacks.

Other Statistics Canada Surveys collecting unionization data include the Labour Market Activity Survey (LMAS, 1984-1990), the Survey of Labour and Income Dynamics (SLID, started in 1993), and the Survey of Work Arrangements (SWA, 1991 and 1995). Both LMAS and SLID data suffer from small sample size and age cutoffs that differ from CALURA and the LFS. The SWA data also have some seasonality drawbacks. However, the questions identifying union membership and coverage in each survey are similar.

In the post-1996 LFS, two questions are used to identify union membership and coverage:

- Is the person a union member?
- Is the person covered by a union contract or collective agreement?

Similarly, recruiting efforts aimed at hitherto less-unionized smaller workplaces appeared to yield positive results. Between 1997 and 2003, union density rose in workplaces with less than 100 employees, and fell heavily in larger ones.

Province

Only three provinces—Prince Edward Island, Saskatchewan and Quebec—saw unions succeed in raising their presence (Table 7). Except for Alberta where the rate remained unchanged, all provinces recorded declines, with the largest (about 1.5 points) being registered in New Brunswick and British Columbia.

Summary

The past several decades have seen significant shifts in union membership. This is the result of changes in workforce demographics, labour laws, and economic

structure, as well as recruitment success or failure. Among the notable shifts have been the increasing feminization of the movement, the growing prominence of public- and service-sector groups, and the waning influence of international unions.

In recent years, other significant trends have emerged. Unions have made little headway in the fast-growing information-technology industries or occupations. Rather, the movement has managed to maintain its overall density by offsetting losses in the goods sector with successes among employees in small workplaces and among part-time and non-permanent employees. The last two groups have large concentrations of youth and women who, not surprisingly, have also seen their unionization rates rise in recent years.

Perspectives

■ Notes

1 For example, in the United States, union membership declined steadily—from a high of 20.1% in 1983 to 12.9% in 2003.

2 The drop in union density between CALURA (pre-1996) and the LFS (post-1996) is probably mostly due to differences in survey design and coverage (see *Data sources* for details).

3 The public sector comprises government, Crown corporations, and publicly funded schools and hospitals.

4 Unionization in the public sector in the United States pales in comparison with Canada. In 2003, the U.S. rate (37.2%) was just over half of Canada's (72.0%). While public-sector rates have remained virtually intact in both countries over the past couple of decades, the U.S. private-sector rate has witnessed a precipitous fall, from roughly 16% in 1983 to 8.2% in 2003, compared with a moderate fall in Canada (from 25.9% in 1984 to 18.2% in 2003). The result was a much steeper decline in the overall unionization rate in the U.S., from 20.1% in 1983 to only 12.9% in 2003, while the Canadian rate remained in the 30% to 34% range.

5 In reality, the government unions (composed of federal or provincial government employees) are national unions since they are headquartered in Canada.

6 To a large extent, HRDC collapsed CALURA's national and government unions into one, labelled simply as 'national unions.'

7 The density is the product of the interaction between the change in union membership (the numerator for a given worker group) and the change in employees (the denominator for the same group).

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■ *Immigrants in Canada's urban centres*

Virtually all the immigrants who arrived in Canada during the 1990s—some 1.8 million people—settled in one of Canada's 27 census metropolitan areas. Toronto, Montréal and Vancouver received nearly three-quarters (73%) of the new arrivals. In 1981, only 58% of immigrants arriving in the previous decade settled in these three largest centres.

Recent immigrants had lower employment and higher unemployment rates than Canadian-born individuals. In Edmonton, for example, recent immigrants had an employment rate of 76.1%, compared with 84.0% for the Canadian-born; their unemployment rate was 5.9% versus 4.1%. Other urban centres showed similar patterns, and differentials were typically higher for women than men.

Recent immigrants were also less likely to work full year, full time. In Ottawa-Gatineau, for example, 61% of immigrant men aged 25 to 54 worked full year, full time, compared with 77% of their Canadian-born contemporaries.

In addition, recent immigrants were less likely to be employed in occupations normally requiring a university degree. In fact, recent immigrants with a university degree were much more likely than their Canadian-born counterparts to be working in occupations that typically require no formal education.

In Vancouver, for example, 31% of recent immigrants with a university degree were employed in jobs with low skill levels, compared with only 13% of Canadian-born graduates. In most other urban centres, the difference was at least 10 percentage points.

Among recent immigrants, female graduates were more likely than their male counterparts to be employed in moderate- or low-skill jobs. Furthermore,

differences between men and women were larger among recent immigrants than among people born in Canada.

On average, immigrants earn less than Canadian-born individuals, but the gap is reduced as immigrants gain work experience in Canada. In the first few years after their arrival, male immigrants arriving between 1975 and 1979 had earnings that were less than 85% of comparable Canadian-born workers. Some 21 years after their arrival, their earnings had all but caught up.

However, more recent groups of arrivals have not fared as well as past groups. In the initial years after their arrival, male immigrants arriving between 1995 and 1999 had earnings that were less than 60% of comparable Canadian-born workers.

For more information, see the August 18, 2004 issue of *The Daily* on the Statistics Canada's Web site (www.statcan.ca).

■ *Employer pension plans*

In 2002, trustee pension funds reported their lowest return on investment ever as stock prices took a sharp downturn in both 2001 and 2002.

In 2000, these funds reported a record-high return on investment of 12.6%. By 2002, this return had declined to 1.7%, a record low. As a result, employers, who had enjoyed a contribution holiday for years, almost doubled their pension plan contributions, from about \$7.3 billion to \$12.6 billion.

In 2002, 3,045 trustee plans covered about 4.5 million Canadian workers, or about 33% of all employees. Of these, 3% had a market value of assets of \$1 billion or more. These 82 plans held about three-quarters of total industry assets, and represented 68% of all members—48 of them were in the public sector.

As a pool of capital, trustee pension funds are second in size only to the chartered banks. They held \$556.8 billion in assets at the end of 2002, a decline of 6.8% from 2000.

The funds had about 28% of their total assets in direct equity investments (stocks). As a result, the value of their assets declined accordingly. In addition, they had 35% of their assets in pooled, mutual and other types of investment funds, 26% in bonds, 4% in real estate, and the remaining 7% in mortgages, cash and miscellaneous assets.

In 2002, trustee pension funds reported total revenues of just under \$50 billion and expenses of just over \$50 billion. As a result, they had a negative cash flow of \$543.3 million. This was in stark contrast to 2000—revenues of \$88.3 billion, expenditures of \$32.1 billion.

In 2000, pension funds made over \$47 billion in profits from the purchase and sale of stocks. In 2002, they had losses of over \$11 billion on sales of stocks.

While only 39% of trustee pension plans were contributory (i.e., employees are required to contribute) in 2002, these plans represented 74% of membership and 77% of assets.

For more information, see the August 5, 2004 issue of *The Daily* on the Statistics Canada's Web site (www.statcan.ca).

■ **Technology use and plant performance in manufacturing**

Between 1993 and 1998, the use of advanced manufacturing technologies in Canadian manufacturing plants increased dramatically. Plants using network communications technologies increased from 18% to 47% of the population. Plants using integration and control technologies increased from 24% to 49%.

Canadian manufacturing plants that increased their use of these advanced technologies during this period had higher productivity growth than those plants that did not increase their technology use. The highest growth was in the adoption of network communications technologies (local area networks, company-wide networks and inter-company networks).

Over the period studied, plants exchanged substantial amounts of market share as some plants grew and others declined. About 15% of market share in an average four-digit industry was transferred from continuing plants that lost market share to plants that gained market share. At the beginning of the period, plants that subsequently increased their market share were 16% less productive than those about to lose market share; by the end of the period, they had become 17% more productive.

Technology growth seems to have both a direct and an indirect effect on market-share growth. First, it is linked to productivity growth, which in turn has strong positive ties with market share growth. In addition, technology growth has a direct effect on market-share growth, most likely because of its influence on product innovation.

By the end of the period, the market rewarded those who managed to improve their efficiency or the quality of their product and hence their labour productivity, with an increase in market share.

For more information, see the July 27, 2004 issue of *The Daily* on the Statistics Canada's Web site (www.statcan.ca).

■ **Self-employment in rural Canada**

In 2001, nearly 4 out of every 10 of Canada's self-employed workers lived in rural areas of the country. In areas where farming is most prevalent, 28% of workers were self-employed, or had self-employment income from a secondary job. This is twice the proportion of only 13% among their urban counterparts.

When farming is excluded, the proportion of rural workers who were either self-employed, or who earned some self-employment income from a secondary job, fell to 16%.

However, farming's relative importance is declining. Between 1981 and 2001, farm self-employment activity rates declined substantially among workers who lived outside the commuting zones of larger urban centres. In contrast, non-farm rates remained fairly stable between 1981 and 1986, then increased in the subsequent decade.

Farm and non-farm self-employment activity rates were higher among rural men than women, but the gap between the rates narrowed between 1981 and 2001. Also, about one-half of all workers aged 20 to 64—with income from unincorporated self-employment relied on it for at least three-quarters of all income. While among those with self-employment income on farms, only one-third relied on it for most of their income.

For more information, see the July 23, 2004 issue of *The Daily* on the Statistics Canada's Web site (www.statcan.ca).

■ *Competition and productivity growth*

The reallocation of market share has a considerable influence on productivity growth, whether it comes from the entry and exit of firms, or gains and losses in existing firms. For example, between 1988 and 1997, the reallocation of output across plants contributed positively to productivity growth in all 22 manufacturing industries studied. Reallocation was responsible for more than one-half of productivity growth in 13 of the 22.

The pace of market-share reallocation increased in the 1990s, as manufacturing was restructured in response to the changes brought about by the Free Trade Agreement with the United States and then the North American Free Trade Agreement.

Two main sources of aggregate productivity growth can be identified: growth within plants and growth because of the reallocation of outputs across individual plants from the less to the more productive.

The reallocation and restructuring take several forms. At the margin, some firms enter and displace firms that are less productive, many of which exit the market. Within the population of incumbent firms, market share is shifted from those who are less to those who are more productive.

Large-scale and ongoing reallocation of outputs occurs across individual producers. On average, between 1988 and 1997, 37% of market share in an industry was transferred from plants that either contracted or closed to new plants or plants that expanded.

Continuing plants that increased market share acquired an additional 16 percentage points in market share over the period. Plants that entered captured 21 points. Continuing plants that lost market share lost a total of 21 points, while the plants that closed relinquished 16.

The pace of market-share turnover increased in the 1990s. Shifts averaged 3.6 percentage points a year between 1979 and 1988, and 4.1 points a year between 1988 and 1997.

Between 1988 and 1997, 53% of aggregate productivity growth was the result of the reallocation of outputs towards more productive plants. Between 1979 and 1988, reallocation contributed 55%.

Market-share changes are endemic to almost all industries. In industries with a large number of producers such as clothing, furniture and fixtures, and leather and allied products, about half of market share

was transferred from plants that either contracted or closed to new plants or plants that expanded between 1988 and 1997.

Shifts in market share were also substantial in two high-technology industries: electrical and electronic products, and industrial machinery. The intense competition in those two industries shifted nearly half of the market share across plants between 1988 and 1997.

The reallocation of output across plants made a positive, large contribution to productivity growth in all 22 manufacturing industries in the 1990s. Again, in those industries with a relatively large number of competitors, such as leather and allied, non-metallic mineral, clothing and textile products, almost all productivity growth came from market share reallocation.

In industries where economies of scale were more important and with fewer competitors, such as transportation equipment, refined petroleum, chemicals, primary metal and pulp and paper, within-plant productivity growth accounted for a larger proportion of the total. However, even in these industries, market-share turnover made an important contribution to overall productivity growth.

For more information, see the July 22, 2004 issue of *The Daily* on the Statistics Canada's Web site (www.statcan.ca).

■ *Economic consequences of widowhood*

Median family income declined continuously among senior women who became widowed, especially compared with women who remained married. In the year before their husbands died, senior women had a median income of \$24,400. One year after they were widowed, this amount had declined 1.6% to \$24,000. Among married senior women, median family income remained unchanged at \$26,800.

However, five years down the road, median family income had fallen for both widows and senior women who remained married. Among widows, median family income declined 9.8%, more than six times greater than the 1.5% decline among other senior women.

Not only did the standard of living of senior widows decline, but more also fell below the low-income threshold. And once in low income, it was very difficult to climb out.

The low-income rate for senior women who lost their husbands in the following year was 3.6%. One year after widowhood, their low-income rate increased to 4.7%. At the same time, the low-income rate among married women who did not become widows declined from 4.6% to only 3.3%.

Following widowhood, the low-income rate for widows increased from year to year, while remaining relatively stable for the still-married senior women.

Five years after their husband's death, proportionally more widows were in low income relative to their still-married counterparts. The low-income rate of widows increased to 9.4%, twice the 4.8% among senior women who remained married.

In 2001, Canada had just over 1.2 million widowed men and women aged 65 and over, a 6.4% increase from 1996. Widows outnumbered widowers four to one. In fact, widows accounted for 45% of all women aged 65 and over. With increased longevity—81.3 years for women, 75.3 for men—women will most likely live longer and live alone for considerable portions of their lives.

For more information, see the July 22, 2004 issue of *The Daily* on the Statistics Canada's Web site (www.statcan.ca).

■ Household Internet use

The number of Canadian households surfing the Internet continued to grow in 2003. An estimated 7.9 million (64%) of the 12.3 million Canadian households had at least one member who used the Internet regularly in 2003, either from home, work, school, a public library or another location. This was a 5% increase from 2002, but well below the annual gains of 19% and 24% observed in 2000 and 2001.

Households with high income, members active in the labour force, those with children still living at home, and people with higher levels of education have been in the forefront of Internet adoption.

Internet use was highest at home. About 6.7 million households had at least one member who regularly used the Internet from home, a gain of 7% since 2002. These households accounted for nearly 55% of the total, up from 51% in 2002.

In 2003, 82% of households in the highest income group had a member who used the Internet from home. This was more than double the proportion of

33% among these households five years earlier. However, lower income households are making strides in logging on. Nearly 45% (1.3 million) of the households in the second income quartile (income between \$24,001 and \$43,999) had someone who used the Internet from home in 2003, up 13% from 2002—the highest growth in connections. In contrast, the proportion of households regularly using the Internet from home remained relatively unchanged for the lowest income quartile.

Rates of Internet use still varied substantially across family types, with children a key factor. Single-family households with unmarried children under the age of 18 had the highest rate of Internet use from home last year, about 73%.

Also, the higher the level of education in the household, the more likely it is to have an Internet connection from home. Nearly 77% of households with someone with a university degree were connected from home.

Internet use from home increased in most provinces in 2003. The highest rates of use were in British Columbia, Ontario and Alberta where roughly 6 out of every 10 households were connected to the Internet at home.

For more information, see the July 8, 2004 issue of *The Daily* on the Statistics Canada's Web site (www.statcan.ca).

■ STUDIES FROM OTHER ORGANIZATIONS

■ Illness, disability and job separation

Effects of four illness or disability conditions on the rate of job separation for 12 reasons are estimated using the Survey of Labour and Income Dynamics. Two of four effects that are statistically significant (under conservative Bayesian criteria for statistical significance) are consistent with the idea that workers weigh illness and disability as costs, and calculate the costs and benefits of continuing to work with an illness or disability. These are:

- Disabling illness increases the hazard of leaving a job.
- Work-related disability increases the odds of leaving a poorly paid job.

The other two effects are:

- Disabling illness decreases the odds of layoff.
- Non-work disability increases the odds of leaving one job to take a different job.

This last effect is consistent with a stress-interruption process. Other effects are statistically significant under conventional criteria for statistical significance, and most are also consistent with cost-benefit and stress theories. See "Effects of illness and disability on job separation" by William Magee, *Social Science and Medicine* 58, no. 6 (March 2004): 1121-1134.

■ **Work and learning in Canada's 'new economy'**

Policies hailing lifelong learning in the so-called 'new economy' promote equitable knowledge work and work-related learning opportunities for all. However, inequity between the sexes persists both in access to and experience of these learning opportunities. See "What happens to the girls? Gender, work and learning in Canada's 'new economy'" by Tara Fenwick, *Gender and Education* 16, no. 2 (June 2004): 169-185.

■ **Labour market outcomes of postsecondary graduates**

The evolving knowledge-based economy is widely believed to affect the labour market outcomes of highly educated workers. However, conflicting arguments arise regarding the needs of the new economy, and little evidence is available in the research literature to determine whether the labour market outcomes of various postsecondary graduates have changed among graduates of recent cohorts.

Drawing on the 1982, 1986, 1990, and 1995 National Graduates Surveys, this paper builds on previous research by comparing the earnings and employment outcomes of graduates of various levels of postsecondary schooling (i.e., trades, college, and university) and fields of study over a 13-year period. The analyses suggest that the labour market experiences of postsecondary graduates of the various programs have remained relatively stable over the period investigated. See "A comparison of the labour market outcomes of postsecondary graduates of various levels and fields over a four-cohort period" by David Walters, *Canadian Journal of Sociology* 29, no. 1 (Winter 2004): 1-27.

■ **Short-term employment transitions of the Canadian labour force**

Using the Survey of Labour and Income Dynamics for the period 1993 to 1996, this paper examines patterns and determinants of labour force transitions of adequately employed and underemployed workers in an attempt to explore whether employment dynamics differ significantly between rural and urban workers to the detriment of rural economic performance. The results indicate that adequately employed rural workers are significantly more likely to enter underemployment, but that once they are underemployed, they have a higher probability of returning to adequate employment.

The study also found weak evidence that education has a lower effect on the probability of moving out of underemployment in rural than in urban areas. In addition, rural women are significantly less likely than their male counterparts and urban workers to enter adequate employment, although the presence of young children does not seem to especially constrain the employment of rural women. See "Short-term employment transitions of the Canadian labour force: rural-urban differences in underemployment" by E. Vera-Toscano, E. Phimister and A. Weersink, *Agricultural Economics* 30, no. 2 (March 2004): 129-142.

■ **The individualization of risk, irregular work shifts and Canadian youth**

The individualization of risk is alleged to have generated a rise in flexible and insecure forms of non-standard employment, which in turn create 'new inequalities and insecurities' that permeate all social groups. Using longitudinal data from the Survey of Labour and Income Dynamics (1993 to 1998), this study empirically assesses this claim by examining the levels of insecurity, composition and voluntary nature of jobs with irregular work times.

Jobs with irregular shifts have an internal hierarchy that produces different levels of economic, employment relation and social integration insecurity. The majority of youth in these jobs face higher insecurity and view non-standard shifts as involuntary, supporting the notion that risk is increasingly shifted from the state or firm to the individual. The broader implications for social life are then considered, followed by the discussion of whether these are 'stop-gap' jobs or the

creation of a 'precarious proletariat'. See "Demand for flexibility or generation of insecurity? The individualization of risk, irregular work shifts and Canadian youth" by Melinda Mills, *Journal of Youth Studies* 7, no. 2 (June 2004): 115-139.

■ *Economic integration of immigrants to Canada*

The relative prosperity of Canada's larger metropolitan areas makes it tempting to believe that immigrants integrate into the economy with relative ease, such that they enjoy a standard of living fairly comparable to native-born Canadians. This paper reviews the literature on the economic integration of Canadian immigrants and suggests that differences among immigrants—according to the circumstances and timing of their arrival—have significant implications for their economic success.

While the evidence indicates that, on average, immigrants continue to experience an earnings disadvantage at entry with respect to their Canadian-born counterparts, most recent studies reject the idea that the earnings of the two groups eventually converge. See "Economic integration of immigrants to Canada: A short survey" by Derek Hum and Wayne Simpson, *Canadian Journal of Urban Research* 13, no. 1 (Summer 2004): 46-61.

■ *The deteriorating economic welfare of Canadian immigrants*

Both the low-income and the earnings gap between immigrants and the Canadian-born appear to have increased, particularly for recent immigrants. While the incidence of low income fell among the Canadian-born during the 1990s, it increased among immigrants in all education and age groups, and from most non-traditional source countries.

In Canada's major cities, virtually all of the increase in low-income rates during the 1990s was concentrated among the immigrant population. Deterioration in their economic well-being occurred despite policy changes designed to select individuals with a potential for contributing to the Canadian economy. This study found that changes in immigrant characteristics accounted for roughly one-third of the increase in the gap. Decreasing economic returns to foreign work

experience and education also played a large role. See "The deteriorating economic welfare of Canadian immigrants" by Garnett Picot, *Canadian Journal of Urban Research* 13, no. 1 (Summer 2004): 25-45.

■ *Consumption and standards of living of the Quebec Inuit*

This study explores some recent trends in the economic practices of the Inuit of Nunavik, Quebec. It is based on a characterization of the monetary and non-monetary transactions made by a sample of 38 Inuit households in 1995. The analyses show that the Inuit are highly dependent on manufactured goods. The rise in income has allowed for more discretionary income; however, analyses suggest that current economic conditions place limitations on the development of individual wants and aspirations, as well as playing a significant role in encouraging traditional norms of conduct. It is suggested that material conditions and values mutually reinforce one another to reduce the penetration of a consumer culture. See "Consumption and standards of living of the Quebec Inuit: Cultural permanence and discontinuities" by Marcelle Chabot, *Canadian Review of Sociology and Anthropology* 41, no. 2 (May 2004): 147-170.

■ *Conseil du patronat du Québec: a neo-liberal outlook?*

Recent studies of the Conseil du patronat du Québec (Quebec council of employers) argue that it has modernized its discourse, moving from neo-liberalism toward dialogue and co-operation with unions and the state. These studies suggest Quebec's employer associations are developing a different political economy than the liberal one found in the rest of Canada. This article assesses these arguments using the discourse of the Council since its inception. It argues that the organization's strategic outlook has remained steadfastly neo-liberal since the early 1980s, suggesting the need for caution in developing accounts of Quebec's economic exceptionalism. See "The Quebec Patronat: Proposing a neo-liberal political economy after all" by Peter Graefe, *Canadian Review of Sociology and Anthropology* 41, no. 2 (May 2004): 171-193.

■ *Housing demand, coping strategy and selection bias*

In conventional modeling of housing demand, consumers choose living arrangements, tenure, and housing on the basis of price, income, wealth, and taste. However, it is both costly and onerous to alter one's housing conditions. It is argued therefore that consumers employ housing strategies to cope with labour market risks and expectations about their future—strategies that may differ from one demographic group to the next. In conventional modeling of housing demand, it is also well-known that selection bias can arise—that is, omitted variables that help account for one aspect of housing (say, tenure choice) also subsequently affect the nature of the demand function for other aspects of housing demand (say, the amount spent on housing by a renter household). One such variable is wealth, a variable that is typically not available in household survey data.

This paper argues that the most important variables that may give rise to selection bias are variables that also reflect the coping strategies employed by consumers. The paper estimates a model of housing choice using Canada-wide pooled samples from the 1980s and 1990s. In this paper, the price of housing services and income prospects vary by region. The paper shows how individuals and families in different housing markets across Canada respond, and how this demonstrates coping strategies (from doubling up to substandard housing). The paper presents evidence to support the argument that selection bias is important in understanding how consumers cope. See “Housing demand, coping strategy, and selection bias” by John R. Miron, *Growth and Change* 35, no. 2 (Spring 2004): 220-261.

■ *Housing affordability burdens*

This study uses national survey and census data on shelter costs and income to describe changes in the proportion and number of low-income households spending more than half of their income on shelter. While affordability problems increased consistently over the last two decades for almost all classes of households, the problems are highly concentrated among those with low incomes.

Women maintaining a household are significantly more likely to experience problems, and the number of income recipients in a household is a key indicator of a potential problem. While all regions and major cities had increasing problems, major differences were evident across regions and urban centres. No correlation was found between the growth of cities or the growth in rent levels and the growing proportion of low-income households with severe affordability problems. Housing prices were remarkably stable during the 1990s and cannot be claimed as the main cause of the escalating problem. However, strong correlations relate the growth of affordability problems to city size and to the prevailing rent level, suggesting that land rent is a factor in determining the problem's spatial incidence and that continued concentration of the population in major cities will fuel the growth of the problem. See “Canada's increasing housing affordability burdens” by Eric Moore and Andrejs Skaburskis, *Housing Studies* 19, no. 3 (May 2004): 395-413.

Perspectives

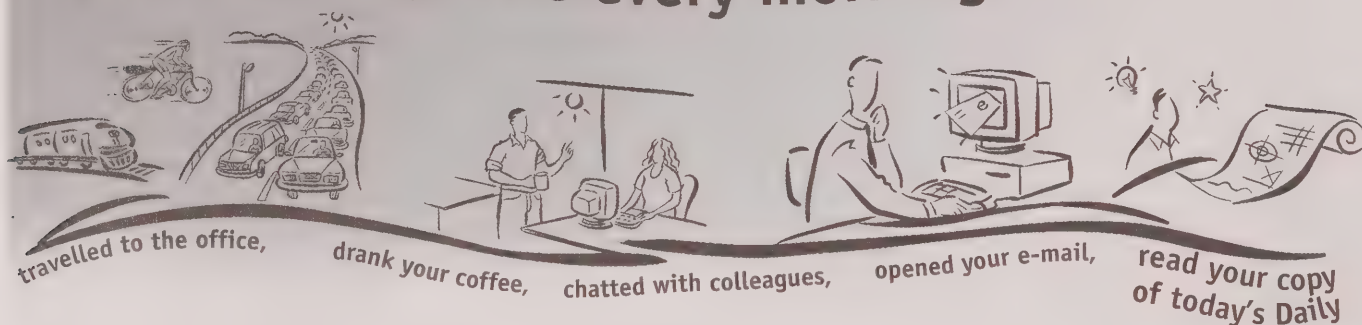
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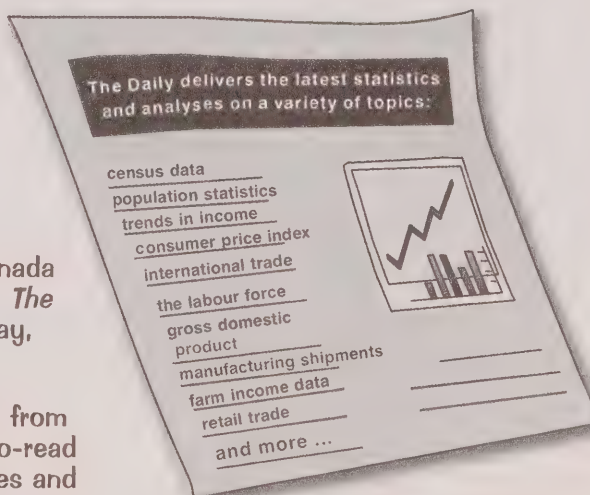
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Key labour and income facts

Selected charts and analysis

This section presents charts and analysis featuring one or more of the following sources. For general inquiries, contact Joanne Bourdeau at (613) 951-4722; bourjoa@statcan.ca.

Administrative data

Small area and administrative data

Frequency: Annual

Contact: Customer Services

(613) 951-9720

Business surveys

Annual Survey of Manufactures

Frequency: Annual

Contact: Dissemination agent

(613) 951-9497

Annual Surveys—Service Industries

Frequency: Annual

Contact: Lucie Lussier

(613) 951-0410

Business Conditions Survey of Manufacturing Industries

Frequency: Quarterly

Contact: Claude Robillard

(613) 951-3507

Census

Census labour force characteristics

Frequency: Quinquennial

Contact: Michel Côté

(613) 951-6896

Census income statistics

Frequency: Quinquennial

Contact: John Gartley

(613) 951-6906

Employment and income surveys

Labour Force Survey

Frequency: Monthly

Contact: Marc Lévesque

(613) 951-4090

Survey of Employment, Payrolls and Hours

Frequency: Monthly

Contact: Sylvie Picard

(613) 951-4090

Employment Insurance Statistics Program

Frequency: Monthly

Contact: Sylvie Picard

(613) 951-4090

Major wage settlements

Workplace Information Directorate
(Human Resources and Skills Development Canada)

Frequency: Quarterly

Contact: (819) 997-3117

1 800 567-6866

Labour income

Frequency: Quarterly

Contact: Anna MacDonald

(613) 951-3784

Survey of Labour and Income Dynamics

Frequency: Annual

Contact: Client Services

(613) 951-7355 or

1 888 297-7355

Survey of Financial Security

Frequency: Occasional

Contact: Client Services

(613) 951-7355 or

1 888 297-7355

Survey of Household Spending

Frequency: Annual

Contact: Client Services

(613) 951-7355 or

1 888 297-7355

General social survey

Education, work and retirement

Frequency: Occasional

Contact: Client Services

(613) 951-5979

Social and community support

Frequency: Occasional

Contact: Client Services

(613) 951-5979

Time use

Frequency: Occasional

Contact: Client Services

(613) 951-5979

Pension surveys

Pension Plans in Canada Survey

Frequency: Annual

Contact: Patricia Schembari

(613) 951-9502

Quarterly Survey of Trusteed Pension Funds

Frequency: Quarterly

Contact: Bob Anderson

(613) 951-4034

Special surveys

Survey of Work Arrangements

Frequency: Occasional

Contact: Ernest B. Akyeampong

(613) 951-4624

Adult Education and Training Survey

Frequency: Occasional

Contact: Client Services

(613) 951-7355 or

1 888 297-7355

Graduate Surveys

(Postsecondary)

Frequency: Occasional

Contact: Client Services

(613) 951-7608

Unionization

At 13.4 million, average paid employment (employees) during the first half of 2004 was 214,000 higher than during the same period a year earlier. Union membership also grew, from 4.0 million to 4.1 million. Because the increase in membership matched the growth in employee counts, the unionization rate (density) remained unchanged at 30.5%.

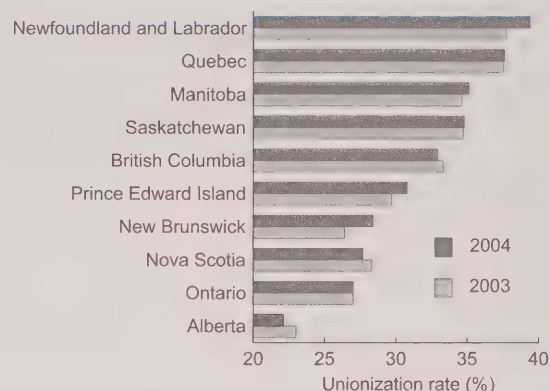
Women registered a slight increase in their rate (to 30.6%) while the rate for men fell marginally to 30.3%. This was the first time that the women's rate surpassed the men's.

Union density fell marginally in both the public sector (to 72.3%) and the private sector (to 17.8%).

Six provinces recorded rate increases, three (Nova Scotia, Alberta and British Columbia) saw declines, and Ontario's rate remained the same.

The rate remained virtually unchanged for both full-time workers (32.0%) and part-time workers (23.6%).

Newfoundland and Labrador and Quebec remain the most unionized provinces; Alberta, the least.



Source: Labour Force Survey, January-to-June averages

Data sources

Information on union membership, density and coverage by various socio-demographic characteristics, including earnings, are from the Labour Force Survey. Further details can be obtained from Marc Lévesque, Labour Statistics Division, Statistics Canada at (613) 951-4090.

Data on strikes, lockouts and workdays lost, and those on major wage settlements were supplied by Human Resources and Skills Development Canada (HRSDC). Further information on these statistics may be obtained from Angèle Charbonneau, Workplace Information Directorate, HRSDC at 1 800 567-6866.

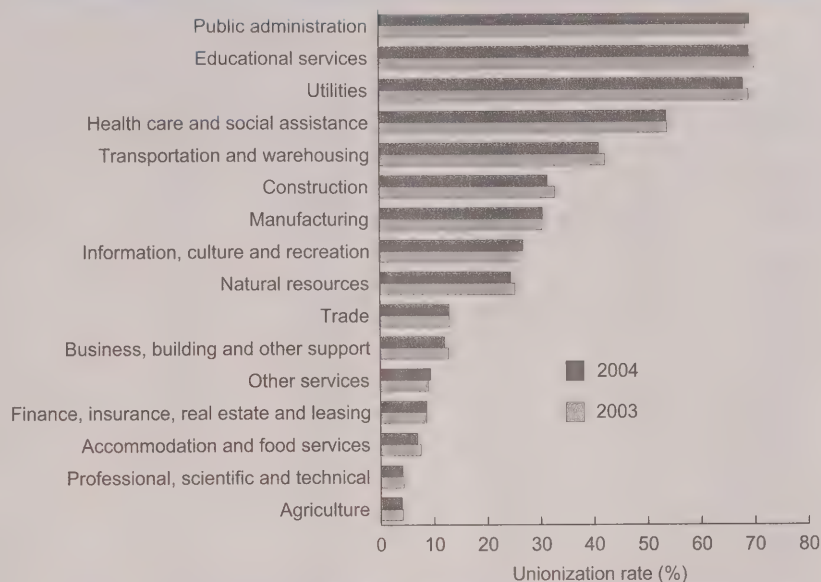
Union density inched up to 31.2% among permanent employees, while falling from 26.5% to 25.4% for those in non-permanent jobs. The rate fell in large workplaces (100 and more employees) and remained unchanged in smaller ones.

Unionization rose in 5 of the 16 major industry groups: public administration; manufacturing; information, culture and recreation; finance, insurance, real estate and leasing; and other (miscellaneous) industries. It remained unchanged in trade, and fell in the rest of the industry groups.

Among the 10 major occupational groups, union density rose in 5 and fell in 5.

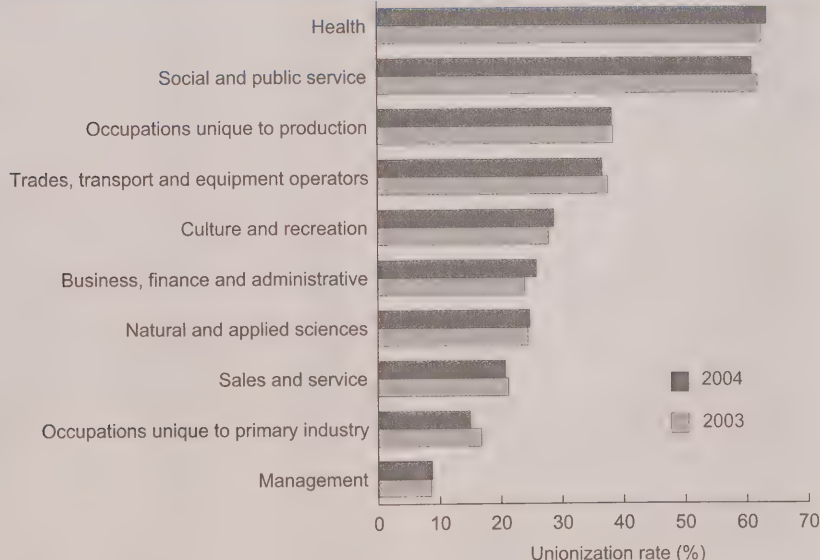
The number of employees who were not union members but covered by a collective agreement averaged 260,000, down slightly from 272,000 a year earlier.

The highest unionization rates were in public-sector industries.



Source: Labour Force Survey, January-to-June averages

Unionization in community service occupations far outpaced that in others.



Source: Labour Force Survey, January-to-June averages

Union membership and coverage in the first half of 2003 and 2004

	2003			2004		
	Total employees	Union density		Total employees	Union density	
		Members	Coverage*		Members	Coverage*
	'000	%	%	'000	%	%
Both sexes	13,186	30.5	32.6	13,400	30.5	32.4
Men	6,728	30.5	32.9	6,778	30.3	32.4
Women	6,458	30.5	32.3	6,622	30.6	32.4
Sector**						
Public	2,997	72.7	76.0	3,114	72.3	75.9
Private	10,188	18.1	19.8	10,286	17.8	19.3
Age						
15 to 24	2,233	13.9	15.7	2,238	13.4	15.0
25 to 54	9,588	33.6	35.7	9,729	33.6	35.6
25 to 44	6,596	30.0	32.1	6,642	29.9	31.9
45 to 54	2,992	41.4	43.6	3,088	41.3	43.6
55 and over	1,364	36.5	38.3	1,432	36.1	37.9
Education						
Less than Grade 9	383	30.8	32.6	389	29.2	30.3
Some high school	1,564	23.8	25.3	1,483	22.7	24.0
High school graduation	2,695	27.7	29.5	2,750	28.0	29.5
Some postsecondary	1,347	23.6	25.5	1,423	23.2	24.8
Postsecondary certificate or diploma	4,532	33.8	35.9	4,571	34.4	36.5
University degree	2,665	35.3	38.0	2,785	34.4	37.3
Province						
Atlantic	906	29.7	31.1	923	30.5	31.8
Newfoundland and Labrador	184	37.7	39.4	187	39.4	40.6
Prince Edward Island	55	29.7	31.3	56	30.8	32.7
Nova Scotia	371	28.3	29.5	380	27.7	28.8
New Brunswick	296	26.4	28.0	300	28.4	29.8
Quebec	3,128	37.5	41.1	3,182	37.6	40.7
Ontario	5,275	27.0	28.7	5,357	27.0	28.4
Prairies	2,253	27.4	29.2	2,286	27.0	29.1
Manitoba	477	34.6	36.8	480	35.1	38.1
Saskatchewan	382	34.7	36.2	389	34.8	36.2
Alberta	1,395	23.0	24.6	1,417	22.1	24.1
British Columbia	1,623	33.3	34.5	1,652	32.9	34.3
Work status						
Full-time	10,707	32.1	34.3	10,914	32.0	34.1
Part-time	2,479	23.7	25.3	2,487	23.6	25.0
Industry						
Goods-producing	3,276	31.0	33.2	3,262	30.8	32.8
Agriculture	120	4.1	4.8	114	3.9	4.8
Natural resources	229	25.3	26.6	234	24.5	26.5
Utilities	130	68.9	72.4	131	67.9	70.8
Construction	598	32.8	34.4	609	31.4	33.7
Manufacturing	2,198	30.4	32.8	2,174	30.5	32.4
Service-producing	9,910	30.4	32.4	10,138	30.4	32.3
Trade	2,134	13.0	14.6	2,169	13.0	14.3
Transportation and warehousing	620	42.2	44.0	665	41.0	42.6
Finance, insurance, real estate and leasing	785	8.6	9.9	814	8.7	10.2
Professional, scientific and technical	661	4.3	5.4	658	4.1	5.4
Business, building and other support	452	12.8	14.7	472	12.1	13.5
Education	1,037	70.0	73.4	1,047	69.0	72.5
Health care and social assistance	1,461	53.7	55.6	1,525	53.6	55.5
Information, culture and recreation	572	25.8	28.2	592	26.8	28.6
Accommodation and food	910	7.5	8.2	920	6.9	7.5
Other	481	9.0	11.0	465	9.4	10.6
Public administration	798	68.3	73.3	811	69.2	74.5

Union membership and coverage in the first half of 2003 and 2004 (concluded)

	2003			2004		
	Total employees	Union density		Total employees	Union density	
		Members	Coverage*		Members	Coverage*
Occupation	'000	%	%	'000	%	%
Management	872	8.6	10.9	958	8.7	11.7
Business, finance and administrative	2,534	23.9	26.1	2,680	25.8	27.8
Professional	333	16.1	18.1	336	16.6	19.4
Financial and administrative	690	21.0	23.1	705	24.3	26.4
Clerical	1,511	27.0	29.1	1,639	28.4	30.1
Natural and applied sciences	889	24.4	27.0	881	24.7	26.9
Health	769	62.5	64.6	790	63.4	65.2
Professional	86	43.9	50.4	98	41.9	47.0
Nursing	259	81.2	82.8	259	80.2	81.6
Technical	176	56.6	57.7	179	59.5	60.9
Support staff	247	53.6	55.3	254	57.0	58.5
Social and public service	1,036	61.9	64.7	1,024	61.0	63.9
Legal, social and religious workers	410	41.2	43.6	406	39.4	41.6
Teachers and professors	626	75.5	78.6	618	75.2	78.5
Secondary and elementary	429	89.3	91.1	425	87.5	89.5
Other	197	45.4	51.4	193	48.1	54.4
Culture and recreation	287	27.8	29.4	276	28.7	30.3
Sales and service	3,565	21.2	22.7	3,546	20.7	21.9
Wholesale	363	6.3	8.0	322	5.0	6.0
Retail	983	12.8	13.8	1,004	12.0	12.9
Food and beverage	511	8.8	9.7	533	10.2	10.5
Protective services	221	53.6	59.4	221	55.8	60.8
Child care and home support	255	39.5	41.7	271	37.4	38.6
Travel and accommodation	1,232	27.7	28.8	1,195	26.5	27.9
Trades, transport and equipment operators	1,783	37.5	39.6	1,816	36.6	38.8
Contractors and supervisors	105	30.7	32.7	110	28.8	32.3
Construction trades	227	40.4	42.6	216	37.8	39.5
Other trades	685	39.6	41.9	694	38.9	41.3
Transportation equipment operators	476	36.7	38.6	491	37.0	38.8
Helpers and labourers	290	33.9	36.0	306	32.6	34.8
Unique to primary industry	252	16.8	17.5	245	15.0	16.1
Unique to production	1,198	38.4	41.1	1,184	38.2	40.1
Machine operators and assemblers	998	38.5	41.2	993	38.8	40.7
Labourers	199	38.1	40.7	191	35.0	37.3
Workplace size						
Under 20 employees	4,403	12.8	14.1	4,386	12.8	14.1
20 to 99 employees	4,291	31.2	33.2	4,452	31.2	33.1
100 to 500 employees	2,856	43.3	46.0	2,856	42.5	45.0
Over 500 employees	1,636	54.4	57.3	1,706	54.0	56.7
Job tenure						
1 to 12 months	2,912	15.0	17.4	2,950	15.0	16.8
Over 1 year to 5 years	4,431	22.9	24.6	4,440	23.3	25.1
Over 5 years to 9 years	1,741	30.7	32.6	1,864	30.5	32.2
Over 9 years to 14 years	1,436	41.0	43.2	1,333	39.8	41.7
Over 14 years	2,665	54.5	56.9	2,813	53.6	56.0
Job status						
Permanent	11,614	31.1	33.0	11,782	31.2	33.0
Non-permanent	1,572	26.5	29.3	1,618	25.4	28.0

Source: Labour Force Survey, January-to-June averages

* Union members and persons who are not union members but covered by collective agreements (for example, some religious group members).

** Public-sector employees are those working for government departments or agencies; Crown corporations; or publicly funded schools, hospitals or other institutions. Private-sector employees are all other wage and salary earners.

Approximately 4.0 million (30.3%) employees belonged to a union in 2003. An additional 283,000 (2.1%) were covered by a collective agreement.

Those in the public sector—government, Crown corporations, and publicly funded schools or hospitals—were four times as likely as their private-sector counterparts to belong to a union (72.0% versus 18.2%).

Almost 1 in 3 full-time employees belonged to a union, compared with about 1 in 4 part-time. Also, almost 1 in 3 permanent employees was a union member, compared with 1 in 4 non-permanent.

High unionization rates were found among employees aged 45 to 54 (40.8%); among those with a university degree (34.8%); in Newfoundland and Labrador (38.2%) and Quebec (37.6%); in educational services (69.0%), public administration (68.4%), and utilities (67.7%); and in health care occupations (53.4%).

Low unionization rates were recorded among 15 to 24 year-olds (13.5%); in Alberta (22.4%); in agriculture (3.5%); in professional, scientific and technical services (4.5%); and in management occupations (9.1%).

Union membership, 2003

	Total employees '000	Union member	
		Total '000	Density %
Both sexes	13,333	4,036	30.3
Men	6,820	2,082	30.5
Women	6,513	1,954	30.0
Sector*			
Public	2,998	2,159	72.0
Private	10,335	1,877	18.2
Age			
15 to 24	2,298	310	13.5
25 to 54	9,653	3,225	33.4
25 to 44	6,636	1,994	30.1
45 to 54	3,017	1,231	40.8
55 and over	1,382	501	36.3
Education			
Less than Grade 9	391	115	29.4
Some high school	1,561	364	23.3
High school graduation	2,746	757	27.6
Some postsecondary	1,373	317	23.1
Postsecondary certificate or diploma	4,548	1,540	33.9
University degree	2,715	944	34.8
Province			
Atlantic	931	273	29.3
Newfoundland and Labrador	190	73	38.2
Prince Edward Island	58	16	28.3
Nova Scotia	379	104	27.4
New Brunswick	303	80	26.4
Quebec	3,165	1,189	37.6
Ontario	5,319	1,427	26.8
Prairies	2,278	616	27.1
Manitoba	478	167	34.9
Saskatchewan	386	133	34.3
Alberta	1,414	317	22.4
British Columbia	1,640	531	32.4
Work status			
Full-time	10,893	3,468	31.8
Part-time	2,440	569	23.3
Industry			
Goods-producing	3,339	1,029	30.8
Agriculture	120	4	3.5
Natural resources	239	60	24.9
Utilities	131	89	67.7
Construction	644	210	32.7
Manufacturing	2,204	666	30.2
Service-producing	9,994	3,007	30.1
Trade	2,159	284	13.1
Transportation and warehousing	629	262	41.7
Finance, insurance, real estate and leasing	789	68	8.7
Professional, scientific and technical	653	29	4.5
Business, building and other support	469	60	12.9
Education	1,001	691	69.0
Health care and social assistance	1,482	792	53.4
Information, culture and recreation	596	151	25.4
Accommodation and food	921	68	7.4
Other	482	44	9.2
Public administration	815	557	68.4

The unionization rate for men (30.5%) in 2003 slightly exceeded that for women (30.0%).

Among men, part-time employees had a much lower rate than full-time (17.6% versus 32.1%). Among women the gap was narrower (25.7% versus 31.5%).

The unionization rate of women in the public sector (73.9%) exceeded that of men (69.0%), reflecting women's presence in public administration, and in teaching and health positions. However, in the private sector, only 13.0% were unionized, compared with 22.5% of men. The lower rate among women reflected their predominance in sales and several service occupations.

A higher-than-average rate was recorded among men with a postsecondary certificate or diploma (34.6%), as well as among those with high school graduation (30.7%). For women, the highest rate was registered among those with a university degree (40.9%), reflecting unionization in occupations such as health care and teaching.

Among those in permanent positions, men had slightly higher rates than women (31.5% versus 30.5%). Among those in non-permanent positions, women were more unionized than men (26.7% versus 23.5%).

Union membership, 2003 (concluded)

	Total employees	Union member	
		Total	Density
	'000	'000	%
Occupation			
Management	891	81	9.1
Business, finance and administrative	2,570	625	24.3
Professional	325	55	16.9
Financial and administrative	703	154	21.8
Clerical	1,542	416	27.0
Natural and applied sciences	898	223	24.8
Health	768	481	62.5
Professional	86	36	42.0
Nursing	257	208	81.0
Technical	178	102	57.5
Support staff	248	134	54.1
Social and public service	1,013	615	60.7
Legal, social and religious workers	413	165	40.0
Teachers and professors	600	450	75.0
Secondary and elementary	408	361	88.6
Other	192	89	46.1
Culture and recreation	295	79	26.7
Sales and service	3,572	737	20.6
Wholesale	356	21	5.8
Retail	1,000	128	12.8
Food and beverage	522	46	8.9
Protective services	224	119	53.2
Child care and home support	250	96	38.6
Travel and accommodation	1,220	327	26.8
Trades, transport and equipment operators	1,849	693	37.5
Contractors and supervisors	107	33	31.0
Construction trades	243	99	40.6
Other trades	696	273	39.2
Transportation equipment operators	492	181	36.9
Helpers and labourers	312	107	34.2
Unique to primary industries	266	43	16.1
Unique to production	1,210	460	38.0
Machine operators and assemblers	1,006	382	38.0
Labourers	204	78	38.3
Workplace size			
Under 20 employees	4,454	563	12.6
20 to 99 employees	4,340	1,341	30.9
100 to 500 employees	2,866	1,228	42.9
Over 500 employees	1,673	904	54.1
Job tenure			
1 to 12 months	2,973	437	14.7
Over 1 year to 5 years	4,473	1,033	23.1
Over 5 years to 9 years	1,796	552	30.8
Over 9 years to 14 years	1,393	560	40.2
Over 14 years	2,698	1,454	53.9
Job status			
Permanent	11,673	3,619	31.0
Non-permanent	1,660	417	25.1

Source: Labour Force Survey

* Public-sector employees are those working for government departments or agencies; Crown corporations; or publicly funded schools, hospitals or other institutions. Private-sector employees are all other wage and salary earners.

Unionized jobs generally provide higher earnings than non-unionized ones. However, factors other than collective bargaining provisions play a role as well. These include varying distributions of unionized employees by age, sex, job tenure, industry, occupation, firm size, and geographical location.

Although these factors have not been examined, it is clear that unionized workers and jobs tend to have certain characteristics that are associated with higher earnings. For example, union density is higher among men, older workers, those with higher education, those with long tenure, and those in larger workplaces. Although differences in earnings and non-wage benefits cannot be attributed solely to union status, the union wage premium (after adjusting for employee and workplace characteristics) has been estimated at 7.7%.

In 2003, the average hourly earnings of unionized workers were higher than those of non-unionized workers. This held true for those working both full time (\$21.51 versus \$18.09) and part time (\$18.28 versus \$11.03).

In addition to having higher hourly earnings, unionized part-time employees generally worked more hours per week than their non-unionized counterparts (19.3 hours versus 16.8). As a result, their average weekly earnings were nearly double (\$362.82 versus \$188.89).

Average earnings and usual hours by union and job status, 2003

	Hourly earnings			Usual weekly hours, main job		
	All employees	Full-time	Part-time	All employees	Full-time	Part-time
	\$					
Both sexes	18.06	19.24	12.79	35.5	39.5	17.4
Union member	21.05	21.51	18.28	36.0	38.7	19.3
Union coverage*	21.01	21.49	18.07	36.0	38.8	19.2
Not a union member**	16.65	18.09	11.03	35.2	39.9	16.8
Men	19.78	20.70	11.96	38.2	40.8	16.4
Union member	22.03	22.32	17.38	38.5	39.8	18.3
Union coverage*	22.00	22.32	17.17	38.5	39.8	18.1
Not a union member**	18.69	19.84	10.70	38.1	41.2	16.0
Women	16.27	17.40	13.13	32.6	38.0	17.8
Union member	20.01	20.45	18.53	33.3	37.3	19.6
Union coverage*	19.94	20.41	18.34	33.3	37.4	19.6
Not a union member**	14.55	15.88	11.18	32.3	38.3	17.1
Atlantic	15.16	16.04	10.58	36.7	40.3	17.6
Union member	19.44	19.71	17.16	37.5	39.4	20.4
Union coverage*	19.39	19.68	16.89	37.4	39.5	20.3
Not a union member**	13.28	14.27	9.00	36.3	40.8	17.0
Quebec	17.46	18.34	13.52	34.6	38.4	18.1
Union member	20.12	20.23	19.49	35.3	37.8	20.3
Union coverage*	20.01	20.17	19.06	35.4	37.9	20.2
Not a union member**	15.67	16.94	11.00	34.1	38.7	17.2
Ontario	18.93	20.34	12.39	35.7	39.8	17.0
Union member	21.88	22.59	17.15	36.5	39.2	18.6
Union coverage*	21.88	22.61	17.06	36.5	39.2	18.4
Not a union member**	17.75	19.36	11.14	35.4	40.0	16.6
Prairie	17.37	18.54	12.16	36.1	40.3	17.2
Union member	20.31	20.85	17.25	36.1	39.1	19.1
Union coverage*	20.38	20.94	17.23	36.1	39.2	19.1
Not a union member**	16.15	17.52	10.55	36.1	40.8	16.6
British Columbia	19.03	20.28	14.37	34.7	39.4	17.1
Union member	22.59	23.20	19.69	35.1	38.5	18.8
Union coverage*	22.53	23.17	19.54	35.1	38.6	18.7
Not a union member**	17.24	18.70	12.35	34.5	39.8	16.5

Source: Labour Force Survey

* Union members and persons who are not union members but covered by collective agreements (for example, some religious group members).

** Workers who are neither union members nor covered by collective agreements.

On average, unionized women working full time received 92% as much in hourly earnings as their male counterparts. In contrast, women working part time earned 7% more.

Wage gains in 2003 (2.6%) fell below the rate of inflation (2.8%), reversing the picture of the two previous years. During the first five months of 2004, wage gains averaged 1.5%, slightly higher than the rate of inflation (1.3%).

Wage gains in the public sector in 2003 were about double those in the private sector. However, in the first five months of 2004, the public sector significantly trailed the private sector.

Annual statistics on strikes, lockouts and person-days lost are affected by several factors, including collective bargaining timetables, size of the unions involved, strike

duration, and state of the economy. The number of collective agreements up for renewal in a year determines the potential for industrial disputes. Union size and strike duration determine the number of person-days lost. The state of the economy influences the likelihood of an industrial dispute, given that one is legally possible.

The estimated number of person-days lost through strikes and lockouts fell from a little over 3 million in 2002 to roughly 1.8 million in 2003.

Major wage settlements, inflation and labour disputes

Year	Average annual increase in base wage rates*			Annual change in consumer price index*	Labour disputes and time lost			
	Public sector employees**	Private sector employees**	Total employees		Strikes and lockouts	Workers involved	Person-days not worked	Proportion of estimated working time
			%			'000	'000	%
1980	10.9	11.7	11.1	10.1	1,028	439	9,130	0.37
1981	13.1	12.6	13.0	12.4	1,049	341	8,850	0.35
1982	10.4	9.5	10.2	10.9	679	464	5,702	0.23
1983	4.6	5.5	4.8	5.8	645	329	4,441	0.18
1984	3.9	3.2	3.6	4.3	716	187	3,883	0.15
1985	3.8	3.3	3.7	4.0	829	162	3,126	0.12
1986	3.6	3.0	3.4	4.1	748	484	7,151	0.27
1987	4.1	3.8	4.0	4.4	668	582	3,810	0.14
1988	4.0	5.0	4.4	4.0	548	207	4,901	0.17
1989	5.2	5.2	5.2	5.0	627	445	3,701	0.13
1990	5.6	5.7	5.6	4.8	579	270	5,079	0.17
1991	3.4	4.4	3.6	5.6	463	253	2,516	0.09
1992	2.0	2.6	2.1	1.5	404	150	2,110	0.07
1993	0.6	0.8	0.7	1.8	381	102	1,517	0.05
1994	...	1.2	0.3	0.2	374	81	1,607	0.06
1995	0.6	1.4	0.9	2.2	328	149	1,583	0.05
1996	0.5	1.7	0.9	1.6	330	276	3,269	0.11
1997	1.1	1.8	1.5	1.6	284	258	3,608	0.12
1998	1.6	1.8	1.7	0.9	381	244	2,444	0.08
1999	2.0	2.7	2.2	1.7	410	158	2,435	0.08
2000	2.5	2.4	2.5	2.7	374	129	1,585	0.05
2001	3.4	3.0	3.2	2.6	378	220	2,199	0.07
2002	2.9	2.5	2.8	2.2	294	168	3,028	0.09
2003	2.9	1.5	2.6	2.8	261	79	1,754	0.05
2004	0.4	2.6	1.5	1.3				

Sources: Prices Division; Human Resources and Skills Development Canada, Workplace Information Directorate

Note: Major wage settlements refer to agreements involving 500 or more employees.

* 2004 data refer to January to May only.

** Public-sector employees are those working for government departments or agencies; Crown corporations; or publicly funded schools, hospitals or other institutions. Private-sector employees are all other wage and salary earners.

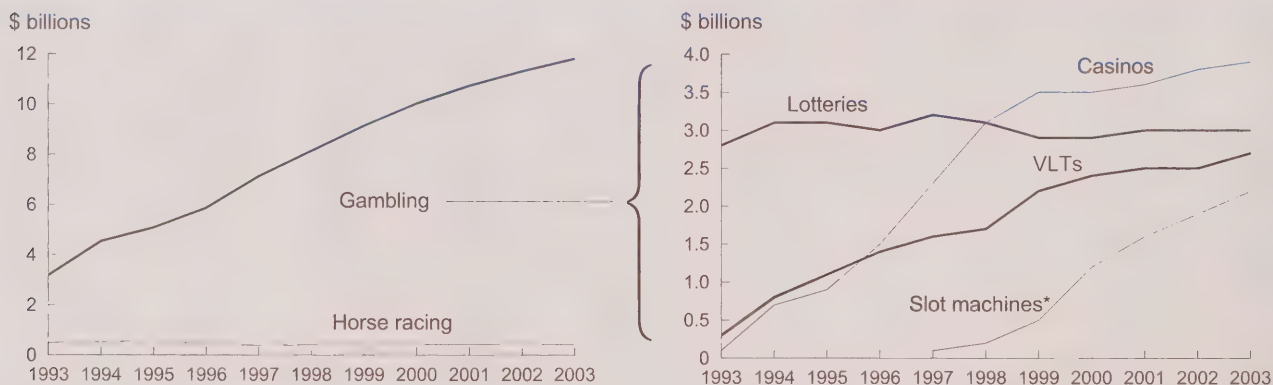
Gambling

Net revenue from government-run lotteries, video lottery terminals (VLTs), and casinos rose from \$3.2 billion in 1993 to \$11.8 billion in 2003. Of this \$11.8 billion, \$6.5 billion was profit.

Net revenue from pari-mutuel betting (horse racing) dropped from \$500 million to \$420 million over the same period (1993 to 2003).

In 2003, lotteries accounted for 25% of all net non-charity gambling revenue, casinos 33%, VLTs 23%, and slot machines not in casinos 19%.

Net revenue from government-run gambling has increased steadily.



Source: National Accounts

* Refers to ones found outside government-run casinos.

Average gambling expenditure per person 18 and over in 2002 ranged from \$103 in the three territories to \$620 in Alberta, with a national average of \$483.

Survey of Household Spending (SHS) and National Accounts rankings of provincial expenditures differ, in part because the SHS includes both charity and non-charity gambling activity.

Gambling revenues and profits

	Gambling revenue*		Gambling profit**		Share of total revenue***		Expenditure per capita (18+) [†]	
	1993	2002	1993	2002	1993	2002	1993	2002
	\$ millions (current)				%		\$	
Canada	3,180	11,734	1,964	6,021	2.1	5.6	147	483
Newfoundland and Labrador	90	198	48	106	2.7	5.0	211	483
Prince Edward Island	22	31	10	15	3.0	3.0	227	296
Nova Scotia	141	366	74	165	3.2	6.1	201	499
New Brunswick	129	197	53	101	3.0	3.6	229	333
Quebec	754	2,701	489	1,427	1.9	4.9	138	460
Ontario	919	4,666	581	2,002	1.9	6.7	113	502
Manitoba	229	494	114	353	3.7	5.6	277	568
Saskatchewan	76	437	52	279	1.3	6.1	105	589
Alberta	406	1,456	320	914	2.8	5.9	210	620
British Columbia	409	1,182	221	656	2.0	4.5	150	366
Yukon, Northwest Territories and Nunavut	5	7	2	3	0.3	0.3	81	103

Sources: National Accounts, Public Institutions (Financial management statistics) and post-censal population estimates.

* Total revenue from wagers on government controlled lotteries, casinos and VLTs, minus prizes and winnings.

** Net income of provincial governments from total gambling revenue, less operating and other expenses (see Data sources and definitions).

*** The 2002 share of total revenue calculation is based on 2002 gambling revenue and 2001 total provincial revenue. The 2002 provincial revenue will be available autumn 2004.

[†] Net wagers; persons 18 and over were selected as this is the legal age of gambling in most provinces.

Compared with workers in non-gambling industries, those in gambling were more likely to be women (52% versus 47%), under 35 (49% versus 37%), paid by the hour (81% versus 64%), and paid less (\$17 hourly versus \$18).

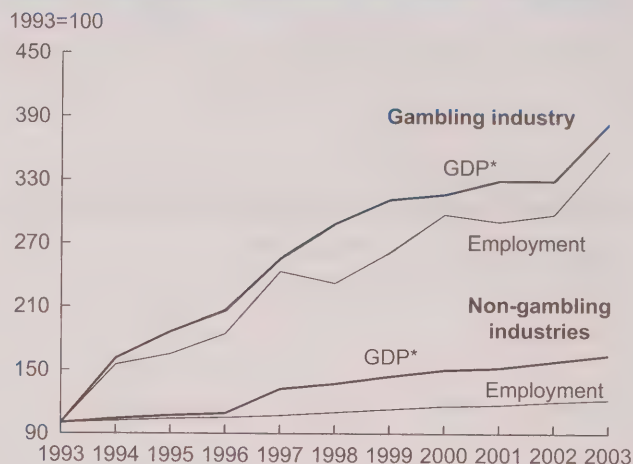
Employment in the gambling industry rose from 14,000 in 1993 to 50,000 in 2003.

Characteristics of workers

	Gambling		Non-gambling	
	1993	2003	1993	2003
	'000			
Total Employed	14	50	12,843	15,696
Sex	%			
Men	46	48	55	53
Women	53	52	45	47
Age	%			
15 to 34	62	49	44	37
35 and over	38	51	56	63
Education	%			
High school or less	73	47	55	45
Postsecondary certificate or diploma	20	41	28	34
University degree	F	12	17	21
Work Status	%			
Full-time	57	83	81	81
Part-time	43	18	19	19
Provinces	%			
Atlantic provinces	6	5	7	7
Quebec	11	21	24	23
Ontario	38	45	39	40
Prairie provinces	29	20	18	18
British Columbia	15	10	13	13
Class of worker	%			
Employee	94	99	84	85
Self-employed	F	F	15	15

Source: Labour Force Survey

Gambling outpaced other industries.



Sources: Labour Force Survey; National Accounts

* The price, at basic prices, of the goods and services produced. The GDP figures for the gambling industry refer strictly to wagering activities, such as lottery ticket sales, VLT receipt sales, and bets at casinos. Other economic spinoffs, such as hotel and restaurant business, security services, or building and equipment maintenance are not included.

Characteristics of jobs

	Gambling		Non-gambling	
	1997	2003	1997	2003
	'000			
Employees*	34	50	11,387	13,284
	%			
Unionized**	30	34	34	32
Non-unionized	70	66	66	68
Permanent job	91	92	89	88
Temporary job	9	8	11	12
Usually receive tips	27	25	7	7
No tips	73	75	93	93
Paid by the hour	81	81	61	64
Not paid hourly	19	19	39	36
Average hourly earnings†	\$			
Men: full-time	13.50	20.00	17.80	20.70
Women: full-time	13.00	15.70	14.80	17.40

Source: Labour Force Survey

* More detailed questions on employees were introduced with the 1997 revision of the Labour Force Survey.

** Includes persons who are not union members, but whose jobs are covered by collective agreements.

† Includes tips and commissions.

One in six women and men living alone reported spending money on casinos, slot machines or VLTs; however, the men spent more than three times as much as the women—\$807 compared with \$245.

The expenditure figures are not adjusted for any winnings. As well, households consistently under-report the amount of money they spend on gambling. Comparisons with Lottery Corporation figures, for example, have shown that households under-report their government lottery purchases by more than 50%.

Household expenditures on gambling activities

	At least one gambling activity		Government lotteries		Other lotteries/raffles, etc.		Casinos, slot machines and VLTs		Bingos	
	\$	%	\$	%	\$	%	\$	%	\$	%
All households										
1998	462	77	251	68	81	34	432	20	700	10
1999	499	76	246	67	76	32	631	20	655	10
2000	492	74	245	64	84	31	546	21	743	9
2001	513	72	257	62	98	30	554	20	815	9
2002	570	73	263	63	129	30	679	21	905	8
One-person households*	452	65	192	54	214	22	546	18	684	7
Men	613	68	238	58	343	24	807	21	889	4
18 to 44	437	69	165	58	87	22	739	24	273	3
45 to 64	618	70	285	60	121	24	956	18	1,908	3
65 and over	1,080	64	330	55	1,190	30	734	19	472	5
Women	297	62	145	50	82	20	245	16	616	9
18 to 44	132	59	98	46	43	22	141	15	79	4
45 to 64	276	75	162	64	59	24	274	19	406	9
65 and over	380	56	149	43	118	18	261	15	783	12
All households										
Newfoundland and Labrador	486	70	243	62	80	32	447	8	749	17
Prince Edward Island	526	63	239	43	116	39	235	8	1,724	10
Nova Scotia	593	75	267	61	70	44	435	22	1,377	11
New Brunswick	462	69	265	61	63	35	308	11	784	13
Quebec	431	79	265	74	57	20	350	19	735	9
Ontario	689	71	275	60	190	31	818	25	1,114	6
Manitoba	589	70	244	55	87	34	501	28	1,026	11
Saskatchewan	620	73	232	54	87	50	904	26	497	9
Alberta	678	69	236	56	145	38	1,023	18	1,119	9
British Columbia	467	70	256	63	94	30	696	17	407	4
Income after tax										
Less than \$20,000	280	56	167	47	74	15	275	11	442	9
\$20,000 to \$39,999	457	73	249	62	98	25	357	20	1,004	8
\$40,000 to \$59,999	659	78	296	69	121	34	848	24	885	8
\$60,000 to \$79,999	559	78	287	69	95	36	627	25	767	6
\$80,000 and over	905	80	288	69	224	46	1,131	29	1,763	5

Source: Survey of Household Spending

Note: Expenditures are per spending household. Unless otherwise indicated, figures are for 2002.

* Using one-person households allows examination of individual characteristics. Persons 18 and over were selected as this is the legal age for gambling in most provinces.

Gambling participation and expenditure rates increased with household income. For example, 56% of households with incomes of less than \$20,000 gambled in 2002 and spent an average of \$280, while equivalent figures for those with incomes of \$80,000 or more were 80% and \$905.

Household expenditure on all gambling activities by income groups, 2002

	Average expenditure		Percentage reporting	Gaming as % of total income	
	All households	Reporting households		All households	Reporting households
	\$	\$	%	%	%
Income after tax	415	570	73	0.7	0.9
Less than \$20,000	156	280	56	1.2	2.0
\$20,000 to 39,999	333	457	73	1.1	1.5
\$40,000 to 59,999	514	659	78	1.0	1.3
\$60,000 to 79,999	435	559	78	0.6	0.8
\$80,000 and over	726	905	80	0.7	0.8

Source: Survey of Household Spending

Data sources and definitions

Labour Force Survey: a monthly household survey that collects information on labour market activity, including detailed occupational and industrial classifications, from all persons 15 years and over.

National Accounts: The quarterly Income and Expenditure Accounts (IEA) is one of several programs constituting the System of National Accounts. The IEA produces detailed annual and quarterly income and expenditure accounts for all sectors of the Canadian economy, namely households, businesses, governments and non-residents.

Survey of Household Spending: an annual survey that began in 1997 and replaced the Family Expenditure Survey and the Household Facilities and Equipment Survey. It collects data on expenditures, income, household facilities and equipment, and other characteristics of families and individuals living in private households.

The **Canadian Community Health Survey (CCHS)** provides regular and timely cross-sectional estimates of health determinants, health status, and health system utilization. The initial year (2000) and every odd year thereafter (from 2001) collects generic health information from 130,000 respondents. During the even years, the survey sample is smaller (roughly 30,000) and addresses a specialized topic. Cycle 1.2, on Mental Health and Well-Being, was held in 2002. Its main objective was to provide national and provincial estimates of major mental disorders and problems, and to illuminate the issues associated with disabilities and the need for and provision of health care. The survey contained questions on a wide range of disorders and problems, including a section on 'pathological gambling'.

The target population of the CCHS 1.2 excludes those living in the three territories, individuals living on reserves or crown land, residents of institutions, full-time members of the Armed Forces, and residents of some remote regions.

Gambling industries: This industry group covers establishments primarily engaged in operating gambling facilities, such as casinos, bingo halls and video gaming terminals; or providing gambling services, such as lotteries and off-track betting. It excludes horse race tracks and hotels, bars and restaurants that have casinos or gambling machines on the premises.

Gambling profit: net income from provincial and territorial government-run lotteries, casinos and VLTs, after prizes and winnings, operating expenses (including wages and salaries), payments to the federal government and other overhead costs are deducted.

Gambling revenue: all money wagered on provincial and territorial government-run lotteries, casinos and VLTs, less prizes and winnings. Gambling revenue generated by and for charities and on Indian reserves is excluded.

Government casino: a government-regulated commercial casino. Permits, licences and regulations for casinos, both charity and government, vary by province. Government casinos, now permitted in several provinces, also vary by the degree of public and private involvement in their operations and management. Some government casinos are run entirely as crown corporations, while others contract some operations—for example, maintenance, management or services—to the private sector.

Video lottery terminal (VLT): coin-operated, free-standing, electronic game of chance. Winnings are paid out through receipts that are turned in for cash, as opposed to cash payments from slot machines. Such terminals are regulated by provincial lottery corporations.

Personal characteristics and gambling behaviour

	Total gamblers	Non-problem	At-risk and problem gamblers				
			Total	At-risk			
				Low	Moderate	Problem	
Total ('000)	18,887		17,699	1,188	697	373	118
%		100.0	93.7	6.3	3.7	2.0	0.6
	'000			%			
Men	9,610	100.0	92.2	7.8	4.4	2.6	0.7
Women	9,277	100.0	95.2	4.8*	2.9	1.4	0.5
				Years			
Average age**		44	45	40*	40	39	41
Personal income				%			
Less than \$20,000	6,392	100.0	93.3	6.7	3.9	2.0	0.8
\$20,000 or more	11,289	100.0	93.8	6.2	3.6	2.0	0.6
Level of education							
Less than postsecondary	9,689	100.0	92.4	7.6	4.5	2.4	0.7
Postsecondary	9,047	100.0	95.2	4.8*	2.8	1.5	0.5 ^E
Racial background							
Non-Aboriginal	18,593	100.0	93.8	6.2	3.7	1.9	0.6
Aboriginal	217	100.0	81.5	18.5*	7.2 ^E	8.3 ^E	2.9 ^E
Province							
Newfoundland and Labrador	330	100.0	93.7	6.3	3.7 ^E	1.9 ^E	F
Prince Edward Island	83	100.0	95.2	4.8 ^E	2.5 ^E	1.8 ^E	F
Nova Scotia	588	100.0	94.3	5.7	3.3	1.4 ^E	1.1 ^E
New Brunswick	463	100.0	94.7	5.3	3.2 ^E	1.5 ^E	F
Quebec	4,787	100.0	95.4	4.6*	2.6	1.6 ^E	0.4 ^E
Ontario	7,213	100.0	93.5	6.5	3.8	2.1	0.6 ^E
Manitoba	642	100.0	90.6	9.4*	5.3	3.3	0.8 ^E
Saskatchewan	575	100.0	90.7	9.3*	5.4	2.5 ^E	1.5 ^E
Alberta	1,731	100.0	92.2	7.8*	4.7	2.3	0.7 ^E
British Columbia	2,474	100.0	93.1	6.9	4.3	1.9	0.7 ^E
Gambling frequency							
Daily	278	100.0	69.7	30.3*	16.4 ^E	7.9 ^E	6.0 ^E
2 to 6 times a week	2,784	100.0	85.7	14.3*	7.2	5.4	1.6
Once a week	4,198	100.0	91.3	8.7	5.1	2.9	0.7 ^E
Once a month	4,370	100.0	94.1	5.9*	4.2	1.2	0.5 ^E
Once a year	7,257	100.0	98.9	1.1*	0.7	0.4 ^E	F
Gambling activity							
Lotteries	16,202	100.0	93.5	6.5	3.8	2.1	0.6
Instant win	9,027	100.0	90.6	9.4*	5.5	2.9	1.0
Casinos	5,413	100.0	86.7	13.3*	7.6	4.4	1.4
Bingo	2,098	100.0	84.5	15.5*	9.1	5.0	1.4
VLTs outside casinos	1,512	100.0	74.4	25.6*	13.2	9.0	3.4
Horse racing	1,038	100.0	84.2	15.8*	7.0	6.7	2.1 ^E
Average activities**		1.9	1.9	3.0*	2.9	3.2	3.2

Source: Canadian Community Health Survey 1.2, 2002

* Statistically significant difference at the .05 level. Tests were done between the at-risk proportion of the reference category and other categories within each variable (except for the provinces, which were compared with the Canada total).

** Significance tests were done between the non-problem and at-risk gambling populations.

Three-quarters of Canadians 15 and over (18.9 million) gambled in 2002. According to the Problem Severity Gambling Index, the majority of these gamblers (93.7%) did so without any problems, while the remainder exhibited at-risk (5.7%) or problem (0.6%) gambling behaviour.

For further information on any of these data, contact Katherine Marshall, Labour and Household Surveys Analysis Division. She can be reached at (613) 951-6890 or katherine.marshall@statcan.ca.

In the works

Some of the topics in upcoming issues

■ Shifts in spending patterns

'Similar' groups are used to examine spending shifts between 1982 and 2001 for the elderly and non-elderly; and for unattached individuals, and two-spouse and lone-parent families.

■ Employment trends in nursing

Employment trends for the two regulated nursing professions (registered nurses and licensed practical nurses) are compared with those for the unregulated nurses aides and orderlies and other female-dominated caregiving occupations. Characteristics of the workers and their jobs are presented from both a cross-sectional and longitudinal perspective.

■ Unemployment mosaic

Unemployment rates vary substantially, not only by province but also by sub-provincial region. A look at how these rates have evolved over the last decade.

■ Disability in the workplace

With the aging of the population, many predict a shortage of skilled workers in the not too distant future. One answer is to have open and accessible workplaces that enable those with disabilities to participate fully. This article will profile disabled workers and the workplace modifications that have been provided for them. It will also look at the barriers to employment faced by the disabled not in the labour force.

■ Longitudinal aspects of non-standard work

Are workers fashioning a career from non-standard jobs or are they sampling these jobs before committing? The Survey of Labour and Income Dynamics provides some clues.

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■ Articles

7 The sandwich generation

Cara Williams

Delayed marriage, postponement of children, and adults with increasingly long-lived parents have given rise to the sandwich generation. These are individuals caught between the often conflicting demands of caring for children and caring for seniors. Although still relatively small (712,000 in 2002), the ranks of the sandwich generation are likely to grow.

15 Wealth inequality by province

Raj K. Chawla

Although related to differing patterns of income across the country, wealth inequality also reflects patterns in the components of wealth: high residential property values in British Columbia, high rates of farm assets on the Prairies, greater pension assets in Ontario, and so on. The article highlights some aspects of wealth distribution that are relatively consistent across the country and others that are more specific to certain provinces and families.

23 Low-paid workers: How many live in low-income families?

Lucy Chung

Low wages need not mean economic hardship—for example, in the case of young people living with their parents or spouses who are secondary earners. However, some groups such as recent immigrants, lone mothers, and unattached individuals are at risk. Who were the low-wage earners in 2000, what proportion lived in low-income families, and how did the situation change between 1980 and 2000?

33 Retaining older workers

René Morissette, Grant Schellenberg and Cynthia Silver

Given the large number of people nearing the traditional age of retirement, concerns have been expressed about the social and economic consequences of a mass exit from the labour force. If mandatory retirement policies were eliminated or if older workers were offered incentives such as part-time work or increased vacation leave, would they remain on the job?



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39 Employment trends in nursing

Wendy Pyper

Nurses make up the largest proportion of health workers in Canada. However, these days they are under increasing pressure. Their average age has increased, enrolment in nursing programs declined during the 1990s, and employment of lower-paid unregulated workers has increased. A look at employment trends between 1987 and 2003 for registered nurses, licensed practical nurses, and nurse aides and orderlies.

53 2002 income: An overview

Ginette Gervais and Renée Béland

A brief look at family incomes in 2002 and changes since 1980.

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Highlights

In this issue

■ The sandwich generation ... p. 7

- In 2002, about 27% of those aged 45 to 64 with unmarried children in the home were also caring for a senior. More than 8 in 10 of these individuals worked, causing some to reduce or shift their hours or to lose income.
- Sandwiched workers were more likely to feel generally stressed—about 70% compared with about 61% of workers with no child-care or elder-care responsibilities. However, almost all (95%) felt satisfied with life in general—about the same percentage as those with fewer caregiving responsibilities.
- Women were more likely than men to be sandwiched and, on average, provided more hours of elder care per month (29 versus 13).
- The effects of providing elder care increase with time spent. For example, one-half of those spending more than eight hours per month (high-intensity caregivers) had to change their social activities, and over a third had to change their work schedule.

■ Wealth inequality by province ... p. 15

- In all provinces, wealth was more unequally distributed than income. In 1999, families in the top income decile held the most wealth, ranging from 42% in Nova Scotia to 52% in Alberta. In seven provinces, families in the top income decile had mean wealth of more than one million dollars.
- Quebec, Ontario, Alberta and British Columbia, with 85% of all families and 88% of total family wealth, accounted for 93% of wealth inequality in Canada.

- In six provinces, homeownership status explained more of provincial wealth inequality than did income; the reverse was true in Newfoundland and Labrador, New Brunswick, Quebec, and Alberta.
- The relative contribution to total wealth inequality of families in rented dwellings or those with incomes under \$25,000 was almost insignificant. On the other hand, more than half of total wealth inequality in Ontario and British Columbia was accounted for by families with incomes of \$100,000 or more.
- Among families in most of the eastern provinces, employer pension plan coverage played an important role in accounting for wealth inequality, whereas for families in the western provinces, business ownership drove inequality.

■ Low-paid workers: How many live in low-income families? ... p. 23

- In 2000, roughly 16% of full-time employees received relatively low earnings—less than \$375 per week. Of these, 30% lived in low-income families, a proportion that has changed little over the last two decades.
- While low-paid workers were, on average, no more likely to live in low-income families in 2000 than in 1980, the risk for some groups changed. Recent immigrants who were not members of a visible minority saw their rate rise from 28% to 44% to equal that of their visible-minority counterparts. In contrast, low-paid lone mothers saw their risk fall from 66% to 56%.

- Low-paid workers earned less in 2000 than in 1980. Their average weekly earnings decreased by 8%, compared with a rise of 11% for all full-time employees.
- Low-paid workers did not seem to experience a decline in living standards over the period. After accounting for changes in family size, their average family income grew 5%.

■ Retaining older workers ... p. 33

- About one-third of those who retired between 1992 and 2002 were healthy individuals who would have been willing to continue working if circumstances had been different.
- Many of these individuals said they would have continued working if they had been able to reduce their work hours without their pension being affected. Salary increases would also have encouraged many to stay on the job.
- Individuals who retired before age 60, and those who had a postsecondary certificate or diploma or a university degree were among the most likely to say that reduced work hours would have encouraged them to keep working.
- Retirees previously employed in health care, social assistance and education were least likely to prefer continued employment—an important consideration given the growing number of employees in those industries who are nearing retirement.

■ Employment trends in nursing ... p. 39

- According to the Labour Force Survey, the number of employed registered nurses (RNs) increased 17% between 1987 and 2003, while licensed practical nurses (LPNs) declined almost 40%. In sharp contrast, employment of unregulated nurse aides and orderlies (NAOs) more than doubled.

Accounting for population growth, the per capita ratio for RNs actually declined. The drop was more pronounced for LPNs—from 291 per 100,000 people in 1987 to 155 by 2003. At the same time, the ratio for NAOs doubled from 300 to roughly 600 per 100,000.

- In 1987, 21% of patient-care workers were NAOs; by 2003, this had increased to 39%. RNs declined from 59% to 52%, while LPNs declined from 21% to just 10%.
- More RNs had a university degree in 2003 than in 1990, both at the baccalaureate and master's levels. Education levels also rose for NAOs—31% had a high school diploma or less in 2003, compared with 47% in 1990.
- Part-time employment rates were higher for the regulated nursing occupations than for the general working population. Roughly one-third of employed nurses worked part time in 2003, compared with just 19% of all workers. The vast majority (82%) of RNs who worked part time chose this arrangement.
- Hourly earnings were substantially higher for RNs than for LPNs, but LPNs earned more than NAOs. In real terms, hourly earnings for RNs increased roughly 9% between 1997 and 2003, declined for LPNs, and remained fairly constant for NAOs.
- Over the period from 1999 to 2001, RNs and LPNs had higher rates of coverage in insurance and retirement plans than the general working population or NAOs.

■ What's new? ... p. 61

■ *Just released*

The Canadian Labour Market at a Glance
 Savers, investors and investment income
 Registered retirement savings plan contributions
 Renewing Canada's manufacturing economy

Earnings of couples with high and low levels of education

Relative wage patterns among the highly educated in a knowledge-based economy

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The dynamics of living in low-income neighbourhoods

Trade barriers and wage inequality in a North–South model with technology-driven intra-industry trade

Evolution of the gender earnings gap among Canadian university graduates

The long and short of the Canada-U.S. Free Trade Agreement

Counting heads

Mandatory retirement and older worker employment

The better way?

Education, work and crime: A human capital approach

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The sandwich generation

Cara Williams

For many people, balancing home and work can be a chore. Those with children and working full time may find life particularly hectic—scheduling children's activities, planning for family time, and still allowing time for themselves. For some, life is further complicated by providing care to aging parents or other relatives. These are the sandwich generation—individuals caught between the often conflicting demands of caring for children and caring for seniors.

While the overall number in the sandwich generation is relatively small, the ranks are likely to grow. One reason is the aging of the baby boomers, which will result in a much larger proportion of seniors in the population. Indeed, population projections indicate that by 2026, 1 in 5 Canadians will be 65 or older, up from 1 in 8 in 2001. Another factor is lower fertility rates, which may mean fewer adults to care for the elderly. A third is the delay in family formation (marriage and childbirth), resulting in older family members requiring care when children are still part of the household. Indeed, delayed marriage, postponement of children, and decreased fertility rates coupled with increased life expect-

ancy means that the average married couple may have more living parents than children (Preston 1984).

The personal and financial sacrifices made by members of the sandwich generation have been highlighted in the media (Anderson 1999; Immen 2004; Kleiman 2002). At the same time, some analysts have indicated that the sandwich generation is small and that the negative consequences are overplayed (Fredriksen and Scharlach 1999). Others think that most care of seniors by family members is better defined as 'helping' and that intensive caregiving is very limited (Rosenthal and Stone 1999). To date, however, little empirical data exist for Canada. This article uses the 2002 General Social Survey (GSS) to examine care of the elderly by persons aged 45 to 64 with children still at home. The analysis focuses on types of care, time spent, effects on the individual from both a work and personal standpoint, and resources that could benefit caregivers (see *Data source and definitions*).

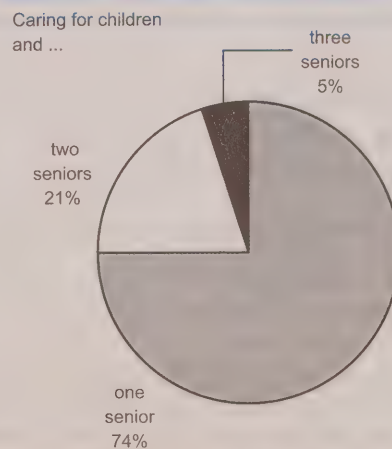
Balancing care of children and seniors is not a new phenomenon

Providing care to elderly relatives is not new, and until quite recently families played a pivotal role in this regard (Ward-Griffin and Marshall 2003). It was not unusual to find three generations in one household,

with the primary caregiving done by the middle-aged woman in the home. While some striking similarities exist between past and present caregiving, one crucial difference is evident: Today, the majority of working-age, non-senior women engage in paid work and are not full-time homemakers. However, while parents have seen child-care services evolve, little formal support has been established for the growing number of middle-aged men and women caring for seniors.¹

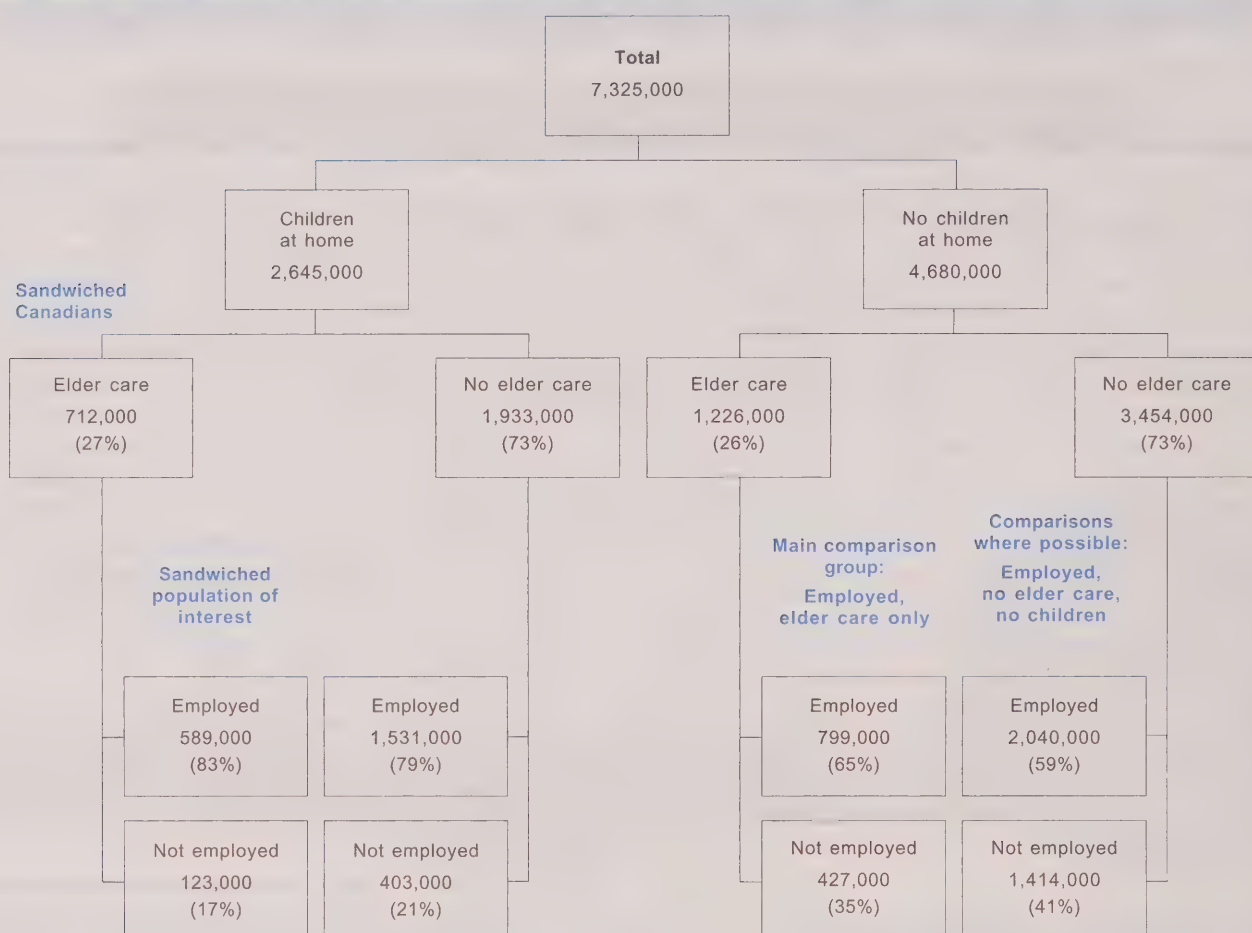
So how are families coping? Research has shown that women spend more time on child care and housework, while men spend more time at paid

Chart: One-quarter of those sandwiched care for more than one senior.



Source: General Social Survey, 2002

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Figure: Population aged 45 to 64

Source: General Social Survey, 2002

Note: Percentages may not add to 100 due to rounding.

work. But what happens when elder care enters the mix? Who is more likely to be on call, men or women? Or is the responsibility shared?

Almost 3 in 10 are sandwiched

According to the 2002 GSS, about 2.6 million people between 45 and 64 had children under 25 living with them. Of these, about 302,000 were lone parents and the remainder lived with a spouse. About 27% also performed some type of elder care. These individuals make up the sandwich generation (Figure).

The vast majority of individuals provided elder care for their parents or parents-in-law. About 25% was directed toward other relatives, friends, neighbours or co-workers (data not shown).

Some sandwiches are thinly spread

For some, caring for both children and elderly relatives can be stressful, particularly for those with young or multiple children. The situation may become even more complicated with more than one elderly person to care for (Chart).

Table 1: Effects of elder care on health and well-being

	Employed		
	Sandwiched	Elders only	Neither
Overall health		%	
Excellent/very good	74.3	73.5	73.4
Good	21.7	21.2	20.9
Fair/poor	4.0	5.1	5.0
Stress level			
Very/somewhat	70.1	64.1	61.0
Not very	21.3	25.4	26.3
Not at all	7.2	9.9	10.2
Don't know/no opinion	F	F	F
Job, family balance			
Very satisfied	21.0	28.1	28.5
Satisfied	60.8	56.9	56.7
Neither/no opinion	4.8	5.1	4.4
Dissatisfied	10.7	7.8	8.0
Very dissatisfied	F	F	F
Satisfaction with life			
Very satisfied	34.4	32.2	29.2
Satisfied	60.5	62.4	64.6
No opinion	F	F	F
Not very satisfied	3.4 ^E	4.0	2.9
Not at all satisfied	F	F	F

Source: General Social Survey, 2002

Notes: Percentages may not add to 100 due to some non-response. Shading indicates significant difference from the sandwiched group.

The vast majority of those with children and caring for an elderly person were employed—more than 8 in 10 stated that their main activity in the last 12 months was working. This compares with only 65% of individuals who provided elder care but had no children at home. Balancing work and family can be tough. However, the GSS showed that most people (82%) who worked while providing both child care and elder care were generally satisfied with the balance they had struck (Table 1).

Caring for an elderly person could lead to a change in work hours, refusal of a job offer, or a reduction in income. About 1 in 7 sandwiched workers reduced their hours over the previous 12 months, 20% shifted their work hours, and 10% lost income (Table 2).

Sandwiched workers have been portrayed as unable to meet their other responsibilities because of caring for a senior (Immen 2004). However, results here show that only slightly more than 1 in 10 workers aged

45 to 64 who were caring for an elderly person, either with or without children at home, had difficulty meeting their other responsibilities.

Types of care

The 2002 GSS looked at the number of hours spent per month on four elder-care activities: care inside the home (housework, meal preparation), care outside the home (yard work, outside home maintenance), transportation (driving to appointments, for groceries), and personal care (bathing, dressing). The survey found that although the incidence of providing care was similar, sandwiched workers spent an average of 19.6 hours per month on these activities while those with no children at home spent 26.4 hours—almost 7 hours more (Table 3). The two groups spent a similar amount of time on the job—41.7 hours per week for sandwiched workers and 40.8 for workers with no children at home.

Intensity of care

While two caregivers may spend similar amounts of time helping a senior, the tasks may differ. For example, one care receiver may need help only with outside chores such as mowing the lawn, while another may require assistance with daily living, such as bathing, dressing or feeding. Hours spent provides an indicator of intensity. Sandwiched workers spending 8 hours or less per month on elder care can be considered low-intensity caregivers, while those spending more can be considered high-intensity caregivers. Effects on the individual differ significantly based on these groupings.

Table 2: Work-related effects

	Employed	
	Sandwiched	Elders only
	%	
Work hours shifted	20.2	23.0
Work hours reduced	15.5	18.4
Income reduced	10.2	9.1

Source: General Social Survey, 2002

Table 3: Incidence and time spent caring for seniors

	Employed					
	Sandwiched			Elders only		
	Both sexes	Men	Women	Both sexes	Men	Women
	%					
In-home care	36.2	35.4	64.6	39.4	34.2	65.8
Outside chores	43.6	69.0	31.0	34.7	67.5	32.5
Transportation assistance	33.3	64.6	35.4	31.1	53.9	46.1
Personal care	15.5	21.5	78.5	15.6	29.8	70.2
	hours					
Average time per month	19.6	12.5	29.0	26.4	19.7	33.1
In-home care	25.1	15.1	30.6	31.6	21.9	36.6
Outside chores	6.5	6.9	5.7	11.7	12.3	10.4
Transportation assistance	8.0	7.8	8.3	7.1	7.5	6.6
Personal care	13.0	12.6	13.1	17.5	17.9	17.4

Source: General Social Survey, 2002

Notes: Percentages will not add to 100 due to multiple responses. Shading indicates significant difference.

Not surprisingly, those in the high-intensity group were more likely to experience health effects. Indeed, 76% felt stressed compared with 67% of their low-intensity counterparts (Table 4). About 9% of the low-intensity group had their sleep patterns affected, and 7% their general health, compared with 22% and 23% respectively in the high-intensity group (Table 5). About one-half of those in the high-intensity group had to change their social activities, and 43% their holiday plans. These individuals were also much more likely than their low-intensity counterparts to feel constantly stressed (20% versus 9%).

The high-intensity group were also much more likely to experience work-related problems. They were three times as likely to shift their work hours, and more than twice as likely to reduce their work hours or to experience a reduction in income.

Women more involved in caregiving

Women shoulder much of the child-care responsibility within two-parent households, even when both parents are in the labour force (Silver 2000). This also holds true for elder care, both in terms of the likelihood of providing care and in performing the most intensive tasks such as bathing, dressing and cooking (Ward and Spitze 1998; Marks 1998).

Of the approximately 1.3 million men aged 45 to 64 with unmarried children at home, about 25% were engaged in elder care. For women, the percentage was

about 32%. The amount of time devoted to elder care also varied by sex. Working women with children at home and caring for an older person spent twice as many hours per month as their male counterparts (29 versus 13). This may be due in part to the type of care performed. For example, outside home maintenance was most often done by men (69%). The same was true for transportation assistance—65% was done by men. Conversely, women were more likely than men to provide personal care (79% versus 22%), and in-home care such as food preparation and clean-up (65%). This pattern held true for those who provided elder care only (Table 3).

Table 4: Effects of caring for seniors by intensity

	Employed and sandwiched		
	Total	Low intensity*	High intensity*
Health		%	
Excellent/very good	74.3	75.7	71.7
Good	21.7	20.8	23.4
Fair/poor	4.0	3.5 ^E	4.9 ^E
Stress			
Very/somewhat	70.1	66.7	76.3
Not very	21.3	22.6	18.8
Not at all	7.2	8.6 ^E	4.6 ^E
Don't know/no opinion	F	F	F
Job, family balance			
Very satisfied	21.0	22.9	17.8
Satisfied	60.8	60.7	61.0
Neither/no opinion	4.8	4.7 ^E	5.4 ^E
Dissatisfied	10.7	9.9	12.3
Very dissatisfied	F	F	F
Satisfaction with life			
Very satisfied	34.4	37.9	28.1
Satisfied	60.5	56.5	67.9
No opinion	F	F	F
Dissatisfied	3.4 ^E	3.9 ^E	F
Very dissatisfied	F	F	F

Source: General Social Survey, 2002

* Low intensity: 8 hours or less of elder care per month; high intensity: more than 8 hours per month.

Notes: Percentages may not add to 100 due to some non-response. Shading indicates significant difference from the low-intensity, sandwiched group.

Table 5: Effects on personal life for employed, sandwiched 45 to 64 year-olds.

	Low intensity*	High intensity*
		%
Almost always feel		
No time for self	5.4 ^E	15.5 ^E
Stressed between helping others and work or family responsibilities	8.8 ^E	19.5
Helping someone is giving back what you received from them	50.4	48.4
Angry when helping person	F	F
Helping is giving back what life has given you	60.2	64.7
Wish someone else would take over helping	F	F
Relationship with senior strengthened	69.0	71.5
Should be doing more	24.6	22.2
Could do a better job	10.8	9.9 ^E
Caregiving has resulted in		
Affected health	6.6 ^E	22.6
Changed sleep patterns	8.5 ^E	21.7
Extra expenses	32.2	55.1
Change in social activities	27.6	49.9
Change in holidays	16.9	42.6
Postponement of education	F	F
Care receiver moving closer	6.5 ^E	10.4 ^E
Caregiver moving in with care receiver	F	5.9 ^E
Effects on work		
Promotion turned down	F	F
Work hours shifted	11.4	35.4
Work hours reduced	9.6	25.6
Income reduced	6.4 ^E	16.8
Overall burden		
None	60.4	36.9
Little/moderate	33.6	56.4
Quite a bit/extreme	3.2 ^E	5.9 ^E

Source: General Social Survey, 2002

* Low intensity: 8 hours or less of elder care per month; high intensity: more than 8 hours per month.

Notes: Percentages may not add to 100 due to some non-response. Shading indicates significant difference from the low-intensity, sandwiched group.

Consequences on personal life

Two schools of thought have emerged with respect to the personal consequences of caring simultaneously for seniors and children. Some research indicates that such people feel no more rushed or stressed than anyone else since the negative aspects of caregiving are balanced by increased self-esteem (Centre on Aging n.d.). Conversely, the two roles may lead to overload, poor health, increased stress, and an inability to find a balance in life (Marks 1998; Centre on Aging n.d.). Another factor is the emotional difficulty many adult children have in caring for their aging parents. This situa-

tion can be stressful for both caregiver and care receiver, especially as failing health necessitates more care (Miller 1981).

The 2002 GSS supports both schools of thought. For example, sandwiched workers were significantly more likely to feel stressed (70%) than either those who provided elder care only (64%) or those with no child-care or elder-care responsibilities (61%) (Table 1). However, although stressed, 95% of sandwiched workers felt satisfied with life in general—virtually the same proportion as those with fewer responsibilities.

For many, caregiving has positive aspects. More than 60% of caregivers felt they were giving back some of what life had given them, and 70% felt their relationship with the elderly person was strengthened (Table 6). While caregiving can be difficult to integrate with other obligations and responsibilities, only about 5% felt it to be an extreme burden.

However, caregiving often leaves little time for social activities or holidays. More than a third found it necessary to curtail social activities, and a quarter had to change holiday plans. Often a call for help can come in the night and the caregiver must leave the house to provide assistance. Some 13% experienced a change in sleep patterns, and the same percentage felt their health affected in some way. While 1 in 10 sandwiched workers lost income, 4 in 10 incurred extra expenses such as renting medical equipment or purchasing cell phones.

The caregiver's wish list

Those busy balancing children, work and elder care expressed a desire for support. Some wishes could be met by workplace

Table 6: Effects on personal life of providing care to seniors

	Employed	
	Sandwiched	Elders only
Almost always feel		%
No time for self	9.1	8.3
Stressed between helping and work or family responsibilities	12.7	11.4
Helping someone is giving back what you received from them	49.7	56.0
Angry when helping person	F	F
Helping is giving back what life has given you	61.9	67.1
Wish someone else would take over helping	2.8 ^E	2.8 ^E
Relationship with senior strengthened	69.9	70.3
Should be doing more	23.8	21.5
Could do a better job	10.5	11.4
Caregiving has resulted in		
Affected health	12.5	12.8
Changed sleep patterns	13.3	15.7
Extra expenses	40.6	39.6
Change in social activities	35.7	35.7
Change in holidays	26.3	24.3
Postponement of education	3.3 ^E	3.7 ^E
Care receiver moving closer	7.9	8.1
Caregiver moving in with care receiver	2.6 ^E	2.8 ^E
Overall burden		
None	51.8	54.5
Little/moderate	41.9	38.6
Quite a bit/extreme	4.2	5.5

Source: General Social Survey, 2002

Notes: Percentages may not add to 100 due to multiple responses or non-response.
Shading indicates significant difference.

the needs of either the care recipients or caregivers. Some focus group research indicates that caregivers may try to hide their caregiving responsibilities, fearing that they are career-limiting. Also, workplace culture may not support the use of such programs even when offered (Wagner 2003).

The caregiver's wish list was very similar for all individuals providing elder care, whether they had children at home or not. For example, both groups were equally likely to want compensation or tax breaks, information on long-term illnesses or disabilities, or counselling (Table 7). However, some differences were evident. Of those working, individuals with children were more likely than those caring for an elderly person only to feel they could do a better job if respite care was available (52% versus 46%). The former were also more likely to want flexible work or study arrangements (46% versus 36%).

programs, others by government policy. Workplace support includes flexible hours, ability to telework, and information about community resources and health and aging in general (Wagner 2003). However, despite concern about possible job absence and the associated costs and productivity loss, elder-care programs are less likely than child-care programs to be available—and even if offered they are not often used (Wagner 2003). The 1999 Workplace and Employee Survey (which excludes public administration) found that 7% of employees (802,700 individuals) had access to child-care services but only 78,800 (just under 10%) made use of them. While fewer employees had access to elder care (394,300), the take-up rate was only slightly higher—about 13% (data not shown).

Some research shows that low utilization rates are common with workplace elder-care services for several reasons. Programs often do not adequately meet

Table 7: Caregiver's wish list

	Employed	
	Sandwiched	Elders only
		%
Respite care	52.3	45.8
Flexible work or study arrangements	46.2	36.4
Information on long-term disabilities	42.6	39.0
Information on caregiving	42.3	37.3
Financial compensation or tax breaks	35.9	34.8
Counselling	27.6	24.0
Other	11.9	9.9

Source: General Social Survey, 2002

Note: Shading indicates significant difference.

Data source and definitions

The data source for this article is the 2002 General Social Survey (GSS) on social support and aging (Cycle 16). The target population is all persons aged 45 and over as of December 31, 2001 in private households in the 10 provinces. Data were collected between February and December 2002. The sample was selected from respondents to the 2001 Canadian Community Health Survey.

For this article, the population of interest was 45 to 64 year-olds caring for children and seniors simultaneously. Individuals were considered **sandwiched** if they provided elder care to someone over 65 and had single children less than 25 living at home. **Sandwiched workers** had a paid job or business as their main activity in the previous 12 months.

This article focuses on the caregiving modules in the survey. These include types of care given to seniors, hours spent, and effects. Caregiving in the form of emotional support was not included. Four types of activities were identified. **Personal care** included assistance with bathing, toileting, care of toenails/fingernails, brushing teeth, hair care, and dressing. **Care inside the home** included meal preparation and clean-up, housecleaning, laundry, and sewing. **Care outside the home** included house maintenance and outdoor work. **Transportation care** included shopping for groceries or other necessities, providing transportation, or doing a senior's banking or bill-paying.

Data limitations

While there are undoubtedly individuals under 45 who are sandwiched, they were not included in the population surveyed in Cycle 16. It has been suggested that younger caregivers may be likely to feel more negative effects from caregiving because their children are younger. However, some research has shown that the 45-to-64 age group is the most likely to be providing care to aging parents (Wisensale 1992). In order to determine if age of children had an effect on responses, data from Cycle 16 were run examining sandwiched workers with children under 15. Results indicated that there was no difference between those with younger children and the population of interest. Additionally, just over 10% (81,000 weighted count) of sandwiched workers were not asked impact of caregiving questions if the person for whom they provided care had died during the previous 12 months. For this reason, it is possible that there may be some bias in the impact of care responses. Finally, since only those providing elder care were asked impact of care questions, it is not possible to compare them with the general 45 to 64-year old population. Thus the major comparison group was 45 to 64 year-olds who provided elder care but had no children at home. Where data are available (Table 1), comparisons with individuals not providing elder care and having no children at home have been made.

Summary

In 2002, about 712,000 Canadians aged 45 to 64 were caught between the responsibilities of raising children and caring for seniors. For more than 8 in 10 of these

individuals, paid work was added to the load. The latter found that caring for a senior affected their work arrangements: 15% had to reduce their hours, 20% had to change their schedules, and 10% experienced a reduction in income. Not surprisingly, these individuals also felt the burden in terms of their health and social life.

However, not all consequences of caregiving are negative. More than 60% of those working and caring for an older person while still having children at home felt that caring for a senior was simply giving back what they had received, and 70% stated that the relationship was strengthened. While these individuals were just as likely as other workers to be satisfied with their work-home balance, they were much more likely to feel generally stressed. They were also significantly more likely to wish for flexible work arrangements or respite care to enable them to be better caregivers.

Those who spent more than eight hours a month on elder care were more likely than those spending eight or less to feel the effects. Of the high-intensity caregivers, half had to change their social activities, and about 35% had to change their work schedule.

Perspectives

Note

1 In addition to the 2002 General Social Survey, which covers only those aged 45 to 64, the Census reveals the recent growth of those in the sandwich generation aged between 25 and 64—slightly more than 2 million individuals in 2001, up from 1.7 million in 1996. In the Census, a sandwiched person is defined as looking after children 15 and under while providing care to a senior.

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Wealth inequality by province

Raj K. Chawla

This article is adapted from *Interprovincial wealth inequality in Canada*, a paper presented at the 28th General Conference of the International Association for Research in Income and Wealth, held in Cork, Ireland, August 23-27, 2004.

Income is a major indicator of the economic well-being of families. But income measures only short-term inflows that affect current consumption and saving. Wealth, on the other hand, measures the surplus accumulated by families and thus provides a better indicator of long-term well-being. Wealth may be targeted toward long-term goals such as retirement, but it can also help families cope with income interruptions or handle unexpected expenditures.

Income is widely available from survey and administrative sources. Wealth, on the other hand, is much harder to measure and, as such, has been the focus of only infrequent surveys (see *Data source and definitions*).

Wealth has many components, some of which are measured more easily than others. The main division is between marketable components, which can be sold or transferred, and non-marketable assets, which have value only for those who hold them. Some marketable assets such as savings accounts, tax-deferred savings plans, stocks, bonds and mutual funds are readily measured. Others such as real estate, durable goods or business equity are seldom traded, and so their value must be estimated. The principal non-marketable asset is an employer pension plan. Employees or their survivors may draw benefits according to the plan, but its present value is not a tradable commodity and is complicated to estimate. After all assets are valued and summed, debt must be subtracted to arrive at a final measure of wealth.

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This article explores the levels and components of wealth inequality in Canada. Many studies have detailed the effects of regional diversity on the distribution of income (Alasia 2003; Finnie 1998; Melvin 1987; Wilkinson et al. 2003; Beach 1996), so the main focus here is provincial variation in the distribution of wealth. Although wealth inequality is undoubtedly related to differing income patterns across the country, it also reflects patterns in the components of wealth: high residential property values in British Columbia, high rates of farm assets on the Prairies, greater pension assets in Ontario, and so on. As such, a multilevel decomposition technique is used to untangle the different effects. This technique highlights some aspects of wealth distribution that are relatively consistent across the country and others that are more specific to certain provinces and family characteristics.

Two in 10 families have virtually no wealth

Since income and wealth are strongly associated, one would expect families with higher incomes to have more wealth.¹ Indeed, several similarities in the provincial distribution of family wealth by pre-tax income deciles are apparent (Table 1).² First, families in the lowest decile had negative wealth. These families had more debts than assets, as in the case of younger or older families with small incomes, or families with businesses with negative net income.³ Families in the lowest two deciles held virtually no wealth.

Second, as expected, the share of wealth held by families rose as they moved up the income ladder. Those in the third and fourth deciles together held between 2% and 4% of all wealth; those in the top decile held the most, ranging from 42% in Nova Scotia to 52% in Alberta.

In seven provinces, families in the top income decile had mean wealth of more than one million dollars (the highest being \$1.5 million in British Columbia). The gap in mean wealth between the top and bottom deciles was largest in British Columbia (\$1.6 million), about 2.5 times that in Newfoundland and Labrador.

Table 1: Family wealth by income decile

	Canada	N.L.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.
	%										
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Lowest	-0.3	-1.2	-0.3	-0.2	-0.4	-0.3	-0.2	-0.2	-0.3	-0.2	-0.2
Second	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.3	0.3	0.2	0.1
Third	0.8	1.5	0.8	1.3	1.1	0.7	0.9	1.1	1.2	0.9	0.5
Fourth	2.0	2.9	1.9	2.8	2.4	1.8	2.1	2.4	2.5	2.1	1.5
Fifth	3.4	4.3	3.5	4.5	3.9	3.2	3.8	4.0	4.4	3.6	3.1
Sixth	5.5	6.0	5.3	6.6	5.6	5.1	5.8	6.3	6.5	5.4	5.5
Seventh	8.1	8.5	7.9	9.3	7.9	7.9	8.6	8.9	9.0	7.6	8.2
Eighth	12.1	11.6	12.5	13.7	11.8	11.5	12.9	12.4	13.3	10.8	12.2
Ninth	18.8	17.7	19.9	19.7	18.7	18.3	19.1	18.6	20.1	17.3	18.3
Highest	49.4	48.5	48.3	42.0	48.8	51.6	46.8	46.2	43.0	52.3	50.8
	\$										
Mean wealth											
Lowest decile	-6,700	-15,100	-5,900	-4,300	-6,900	-9,300	-6,200	-5,500	-6,200	-4,300	-7,600
Highest decile	1,320,900	611,500	1,029,300	845,900	846,000	1,184,800	1,386,700	1,084,100	1,067,000	1,422,800	1,542,600
	%										
Mean income											
Lowest decile	6,200	6,900	8,000	6,300	6,900	5,700	7,600	7,600	5,000	6,200	4,000
Highest decile	151,200	115,000	121,500	119,000	106,200	137,000	163,500	134,100	126,300	172,700	146,300
	%										
Families	100.0	1.6	0.4	3.1	2.5	25.5	36.7	3.7	3.3	9.5	13.8
Total wealth	100.0	0.8	0.4	2.3	1.8	21.0	40.6	3.1	3.2	10.3	16.5
Total income	100.0	1.3	0.4	2.6	2.0	23.0	40.9	3.4	2.9	10.2	13.5
	\$										
Mean wealth	249,300	125,400	214,400	182,200	179,400	205,200	276,200	212,100	242,700	272,100	298,100
Median wealth	109,200	65,300	90,500	100,300	84,900	79,500	132,900	106,500	131,400	122,000	127,200
Mean income	49,800	39,600	42,000	41,400	40,500	44,800	55,400	46,100	43,200	53,700	48,600
Median income	39,600	32,300	33,000	34,000	32,300	35,300	45,100	37,300	34,400	43,500	40,100
Theil's T (total)											
Wealth	0.865	0.748	0.755	0.634	0.767	0.918	0.761	0.826	0.647	0.990	0.984
Pre-tax income	0.314	0.266	0.269	0.272	0.240	0.334	0.301	0.283	0.277	0.325	0.308

Source: Survey of Financial Security, 1999

On the other hand, the gap in mean income was much smaller, ranging from \$166,000 in Alberta to \$108,000 in Newfoundland and Labrador. Thus income is more equally distributed than wealth.

Theil's T statistic is a measure of inequality and can be used to decompose total inequality into 'between group' (for example, provinces) and 'within group.' It shows that income inequality was between 32% and 42% of wealth inequality.⁴ Wealth was much

more unequally distributed among families in Alberta, British Columbia, and Quebec than in Ontario. Nova Scotia had the most equal distribution.⁵

Interprovincial differences account for little of total wealth inequality

Of total wealth inequality in Canada, 98% was attributable to inequality within provinces. The factors affecting family wealth inequality within provinces

include homeownership status, business equity, financial asset components, employer pension plan savings, and mortgage and consumer debt.

Ontario, with 37% of all families and 41% of total family wealth, accounted for 41% of total wealth inequality, followed by British Columbia (14% of families and 16% of wealth) at 22%. Shares for Quebec and Alberta were 17% and 13% respectively. These four provinces, with 85% of all families and 88% of total family wealth, accounted for 93% of overall wealth inequality.

Wealth inequality by family characteristics

Besides financial assets and business equity, differences in income and homeownership contribute to family wealth inequality. As mentioned earlier, income and wealth are strongly associated, so any variation in family income is likely to result in a variation in wealth, both between and within income groups (Table 1).⁶

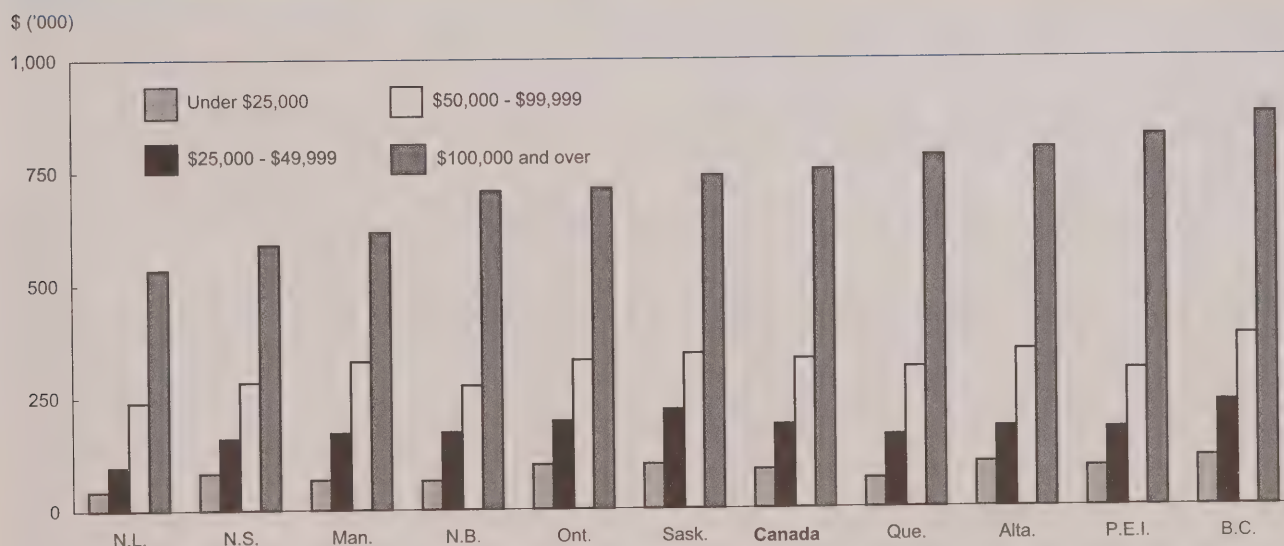
For instance, the gap in mean wealth between families with incomes under \$25,000 and those with \$100,000 or more was \$491,000 in Newfoundland and Labrador (lowest mean wealth) compared with \$764,000 in British Columbia (highest). On the other hand, the

interprovincial range of mean wealth within income groups was \$67,000 for families with incomes under \$25,000 and \$340,000 for those with incomes of \$100,000 or more (Chart).

These within-income-group ranges show that family wealth across provinces is affected by other factors in addition to income, such as homeownership status, family type, and life-cycle stage. Within provinces, for example, from 20% to 34% of wealth inequality was explained by wealth differences between income groups, and from 16% to 38% by differences between homeownership groups (renter, owner with a mortgage, owner without a mortgage) (Table 2). Income and homeownership explained relatively more of the inequality than other characteristics such as business ownership, age of the major income recipient (used as proxy for life-cycle stage), or coverage in an employer pension plan.

However, given the high correlations between family income, homeownership, age of major income recipient, business ownership, and coverage under an employer pension plan, their individual explanatory powers cannot be added to derive the total inequality coefficient. To overcome this multicollinearity, it is

Chart: Regardless of income, families in British Columbia had the highest mean wealth.



Source: Survey of Financial Security, 1999

necessary to recalculate the explanatory powers of between and within groups by classifying data by such characteristics taken together. The resulting between group's overall explanatory power is then split by each of the characteristics considered. To maintain statistical reliability, only a limited number of characteristics can be used at a time. The following discussion is based on income, homeownership and business ownership.⁷

Homeownership accounts for much of wealth inequality

More than half (53%) of wealth inequality in Ontario was explained by between-group inequality and the rest (47%) by within-group inequality (Table 3). The overall explanatory power of 53% could be decomposed into 15% for income, 28% for homeownership, 4% for business ownership, and 6% for their interaction. This decomposition shows that variation in wealth by homeownership explained more of the wealth inequality in Ontario than did variation by income group. A similar situation prevailed in Prince Edward Island, Nova Scotia, Manitoba, Saskatchewan, and British Columbia.

Variation by homeownership can be attributed not only to rates of ownership but also to wealth differences between renters, owners without a mortgage, and owners with a mortgage. The wealth of homeowners may, in turn, be influenced by local real estate values. In Newfoundland and Labrador, New Brunswick, Quebec, and Alberta, differences in wealth by income group were more important than homeownership. Business ownership remained in third place—with an explanatory power relatively higher for families in Alberta and Prince Edward Island.

With the ranking of family characteristics affecting wealth inequality across provinces established, one question remains unanswered: How is total wealth inequality distributed by levels of these characteristics? For example, in Quebec, income explained more than homeownership. Did the wealth of families in different income strata contribute equally to this inequality? In fact, the variation in wealth among families with incomes under \$25,000 accounted for less than 1% of wealth inequality in Quebec, compared with 44% for those with incomes between \$50,000 and \$99,999 and 45% for those with incomes of \$100,000 or more

Table 2: Wealth inequality by selected family characteristics*

	Canada	N.L.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.
Total inequality (Theil's T)	0.865	0.748	0.755	0.634	0.767	0.918	0.761	0.826	0.647	0.990	0.984
Pre-tax income						%					
Between groups	23.4	34.3	27.7	23.8	23.7	29.2	21.2	26.4	23.5	20.4	19.8
Within groups	76.6	65.7	72.3	76.2	76.3	70.8	78.8	73.6	76.5	79.6	80.2
Homeownership											
Between groups	29.0	15.9	35.2	17.1	21.8	27.4	37.5	30.0	29.8	19.6	30.5
Within groups	71.0	84.1	64.8	82.9	78.2	72.6	62.5	70.0	70.2	80.4	69.5
Age of major income recipient											
Between groups	10.5	6.5	8.3	11.7	10.7	11.7	13.0	6.5	8.4	5.0	11.9
Within groups	89.5	93.5	91.7	88.3	89.3	88.3	87.0	93.5	91.6	95.0	88.1
Employer pension plan											
Between groups	4.2	11.4	5.0	10.2	10.1	4.5	6.1	2.3	2.3	3.6	1.1
Within groups	95.8	88.6	95.0	89.8	89.9	95.5	93.9	97.7	97.7	96.4	98.9
Business ownership											
Between groups	10.5	6.5	16.1	7.8	18.7	13.8	6.6	9.6	14.1	16.8	9.8
Within groups	89.5	93.5	83.9	92.2	81.3	86.2	93.4	90.4	85.9	83.2	90.2

Source: Survey of Financial Security, 1999

*Excludes families with negative or zero wealth.

Table 3: Decomposition of wealth inequality*

	Canada	N.L.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.
Total inequality (Theil's T)	0.865	0.748	0.755	0.634	0.767	0.918	0.761	0.826	0.647	0.990	0.984
						%					
Between groups	49.0	49.2	65.9	41.8	51.0	54.7	52.8	53.4	54.2	45.6	51.5
Income	18.0	46.5	17.8	10.4	20.7	21.3	14.9	16.8	14.5	16.5	11.7
Homeownership	20.5	11.2	27.9	13.9	18.5	17.2	28.1	21.5	22.9	13.7	24.5
Business ownership	5.1	3.7	10.4	4.2	8.9	8.3	3.5	5.5	7.9	11.5	7.2
Interaction term	5.4	-12.2	9.8	13.3	2.9	7.9	6.3	9.6	8.9	3.9	8.1
Within groups	51.0	50.8	34.1	58.2	49.0	45.3	47.2	46.6	45.8	54.4	48.5

Source: Survey of Financial Security, 1999

* Excludes families with negative or zero wealth.

Data source and definitions

The analysis is based on the Survey of Financial Security (SFS), conducted between May and July 1999. The sample consisted of 23,000 dwellings from the 10 provinces—21,000 from a regular area sample and 2,000 from 'high-income' geographic areas. A high-income household was one with total income of at least \$200,000 or investment income of at least \$50,000. Excluded were persons living on Indian reserves, members of the armed forces, and those living in institutions such as prisons, hospitals, and homes for seniors. The SFS interview questionnaire (Catalogue no. 13F0026MIE-01001) is available free on the Statistics Canada Web site at www.statcan.ca/cgi-bin/downpub/research.cgi. For more details about the survey, see *The assets and debts of Canadians: An overview of the results of the Survey of Financial Security* (Statistics Canada Catalogue no. 13-595-XIE).

The survey collected information on the socio-demographic and labour force characteristics of persons aged 15 years and over, as well as the assets and debts of their families at the time of the survey. For 85% of survey respondents, income for 1998 was compiled from authorized linkage to tax records; income information for the remaining 15% was collected in person. Collection was by personal interview, although respondents could also complete the questionnaire themselves. Financial data were sought from the family member most knowledgeable about the family's finances. Proxy response was accepted. The overall response rate was 76%.

With the exception of savings in employer pension plans, missing data on components of assets and debts used to compile wealth estimates were imputed mostly by a hot deck procedure. Accrued savings in pension plans, on the other hand, were estimated through a termination valuation approach from information collected on years in the labour force, coverage under pension plan(s), contributions made, and benefits received. A detailed description

of the methodology used to estimate such savings can be found in *Survey of Financial Security: Methodology for estimating the value of employer pension plan benefits* (Statistics Canada catalogue no. 13F0026MIE-01003). Empirical data included in this paper are based on a sample of 15,933 families, including 1,143 from the high-income sample.

Family: Refers to economic families and unattached individuals. An economic family is a group of persons sharing a common dwelling and related by blood, marriage (including common law) or adoption. An unattached individual is a person living alone or with unrelated persons.

Major income recipient: The person in the family with the highest income before tax. If two persons had exactly the same income, the older was treated as the major income recipient.

Tenure: Refers to the homeownership status of a family at the time of the survey. A family may be living in a rented dwelling or in an owned dwelling, with or without a mortgage.

Pre-tax family income: Sum of incomes of family members aged 15 or over received from all sources during the calendar year 1998. Sources include wages and salaries, net income from self-employment, investment income, government transfers, retirement pension income, and alimony. Excluded are income in kind, tax refunds, and inheritances.

Wealth: Total assets less total debt. It is based on marketable assets that are in direct control of families. It does not include the accrued value of savings held in employer pension plans or future claims on publicly funded, income-security programs. Nor does it include any potential returns on human capital (employment income or ability to generate investment income).

(Table 4). The corresponding shares in Alberta were 1%, 49% and 46%. More than half of wealth inequality in Ontario and British Columbia was attributable to families with incomes of \$100,000 or more.

The relative contribution to total wealth inequality of families in rented dwellings was almost insignificant provincially, whereas the largest contribution was made by families living in mortgage-free homes. Similarly, families with a major income recipient aged 45 to 64 held the largest share of inequality, varying between 72% and 35% for eight provinces. The two provinces showing a different pattern were Newfoundland and Labrador, where elderly families had the highest contribution (50%), and Alberta, where younger families (major income recipient under 45) accounted for 45%.

Shares of total inequality by business ownership showed quite a contrast. In Alberta, where families had a higher rate of business ownership as well as a higher

proportion of wealth in terms of business equity, the variability in holdings of families with a business accounted for 90% of provincial wealth inequality—compared with 57% in Ontario.

On the other hand, the variation in wealth of families with an employer pension plan accounted for 72% of wealth inequality in Newfoundland and Labrador compared with just 31% in British Columbia. Among families in most of the eastern provinces, coverage under such plans played an important role in accounting for wealth inequality, whereas for families in the western provinces, business ownership drove inequality.

Conclusion

Provincial economies differ considerably. These differences are in turn primarily responsible for the variation in family income across the country. However,

Table 4: Share of provincial wealth inequality by selected family characteristics*

	Canada	N.L.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.
Total wealth inequality	100.0	0.1	0.3	0.8	0.9	Share (%) 17.4	40.6	2.3	2.3	12.9	22.3
Pre-tax income						Distribution (%)					
Under \$25,000	1.8	-5.8	3.1	6.5	-2.6	0.6	1.6	-3.3	0.7	1.3	4.8
\$25,000 - \$49,999	8.3	5.0	17.2	11.5	32.7	10.3	7.0	8.1	17.5	3.7	8.4
\$50,000 - \$99,999	39.1	59.1	24.8	45.5	38.9	44.2	34.0	56.6	42.6	49.1	33.1
\$100,000 and over	50.9	41.8	54.9	36.5	31.1	44.9	57.4	38.6	39.2	45.9	53.7
Homeownership status											
Renter	-0.5	-3.5	-4.8	8.6	0.1	5.7	-5.2	-2.1	-5.8	1.3	0.5
Owner											
Without mortgage	78.8	81.1	103.3	74.1	87.2	76.2	84.8	91.7	91.4	53.9	84.0
With mortgage	21.7	22.5	1.4	17.3	12.8	18.0	20.4	10.4	14.4	44.8	15.5
Age of major income recipient											
Under 45	16.0	7.4	9.4	1.2	16.5	12.8	7.1	31.4	17.9	44.9	16.9
45 to 64	60.6	42.8	64.7	67.2	68.0	72.0	63.5	44.8	56.8	35.0	61.8
65 and over	23.4	49.8	25.9	31.6	15.4	15.1	29.4	23.8	25.3	20.1	21.3
Employer pension plan											
No	43.9	28.5	50.8	28.7	30.9	47.3	30.9	52.0	44.8	38.6	69.2
Yes	56.1	71.6	49.2	71.3	69.1	52.7	69.1	48.0	55.2	61.4	30.8
Business ownership											
No	33.2	62.1	26.0	55.7	33.5	32.9	42.9	35.0	25.8	10.3	27.0
Yes	66.8	37.9	74.0	44.4	66.5	67.1	57.1	65.0	74.2	89.7	73.0

Source: Survey of Financial Security, 1999

* Excludes families with negative or zero wealth.

the province with the highest mean income is not necessarily the province with the highest mean wealth. Other factors besides income influence family wealth. These include homeownership status, home values, financial assets, business ownership, other real estate, vehicles, coverage under employer pension plans, and possession of other durable goods.

Provincially, wealth was more unequally distributed than income and concentrated among families in the top income decile. Also, it was more unequally distributed in three provinces—Quebec, Alberta, and British Columbia.

Four provinces (Quebec, Ontario, Alberta and British Columbia) accounted for 93% of overall wealth inequality in Canada. A multilevel decomposition of wealth inequality by family characteristics such as income, homeownership, and business ownership showed that in six provinces, homeownership ranked higher than income in explaining inequality, whereas income led in the other four. Business ownership ranked third in all provinces.

The prevalence of income and wealth inequality is not new and occurs in almost all countries. However, the approaches to redistribution vary. For instance, Canada has a progressive income tax system, which allows the use of taxes and government transfers to reduce income inequality. Intergenerational wealth transfers, however, are generally taxed as income for the recipient. Canada has no direct wealth tax. However, income earned on financial assets is taxed, and municipalities levy property taxes on homes and other real estate.

On the other hand, the Canadian income tax system encourages personal savings and investment in a variety of tax-deferred savings plans.⁸ The objective of such incentives is to encourage families to save more for long-term goals such as retirement or children's education. However, families with higher incomes are more likely to use such tax-deferred plans since they are able to put money aside.⁹ Although such incentives may increase wealth inequality, investments in these tax-deferred plans must be converted into income at a later date and would be subject to taxation at the recipient's highest marginal rate.

Finally, some results indicate that family characteristics may be the strongest generator of wealth inequality. Renters and low-income earners tend to have compressed wealth distributions, as well as low average wealth. Homeowners and high-income earners, on the

other hand, have not only higher average levels of wealth, but also greater variation in wealth. Excluding home equity, homeowners still have more than six times the mean wealth of renters.

Perspectives

Notes

- 1 Wealth usually rises with income. However, since wealth is accumulated over the life cycle, families with lower incomes during retirement may have much greater wealth than their younger counterparts with relatively higher incomes.
- 2 Tax exemptions based on a taxpayer's demographic situation (marital status, age, number of dependants), business status and investments made may affect the post-tax incomes of families across Canada. Pre-tax incomes, on the other hand, reflect the family's total income in a given year and are used for ranking families by decile groups.
- 3 In Newfoundland and Labrador, where mean income was lowest, 9% of families had negative or zero wealth, compared with 6% in Ontario and Alberta—provinces with relatively higher levels of incomes (Table 1).
- 4 Details can be found in Theil (1967), chapter 4; Allison (1978), and Bourguignon (1979). For its illustrative use, see Schwarz (1996), Cardoso (1997), Zyblock and Tyrrell (1997), and Frick and Grabka (2003). Also see Cowell (1985) for multilevel decomposition of Theil's Index.
- 5 In this paper, wealth inequality was studied using only Theil's coefficient because of its additive and decompositional properties. Other measures of inequality, including the Gini coefficient, log of variance of wealth, and coefficient of skewness were also used, but for brevity are not included here. A summary table containing results of these measures is available from the author.
- 6 Some of this high-income, high-wealth situation may be embedded in the diversity of provincial economies, resulting in varying incomes for their residents. Compared with Ontario (100), the index of mean wealth varied between 46 (Newfoundland and Labrador) and 108 (British Columbia). However, when mean wealth of families across provinces was recalculated on the assumption that Ontario's distribution of income prevailed in all other provinces, the gap in indices of mean wealth fell to 53 points. This shows that even if the distribution of income were the same across provinces, mean wealth of families in different provinces would still vary.
- 7 Even though the methodology allows a multilevel decomposition, it is still necessary to restrict the number of characteristics that can be used at a time in order to maintain the statistical reliability of conclusions. The use of five characteristics would have meant classifying families in each province into 144 cells—income (4), homeownership

(3), age of major income recipient (3), business ownership (2), and coverage under a pension plan (2). This would have meant splitting the sample of 15,933 families into 1,440 (144x10) cells. Although only the results of income•homeownership•business ownership are shown here, outcomes of other combinations can be made available upon request.

8 These include registered retirement savings plans, registered retirement income funds, registered homeownership savings plans, and registered education savings plans. Also, reduced tax rates apply for investment income and dividends incomes and capital gains (after exhausting the lifetime exemption of \$100,000 and \$500,000 for qualified small business corporations and qualified farm property).

9 For example, of all taxfilers aged 25 to 64, only 4% of those with income under \$10,000 contributed to registered retirement savings plans in 1999, compared with 74% of those with income between \$60,000 and \$79,999, and 78% with income of \$80,000 and more. The Canadian Education Savings Grant program has recently introduced greater savings incentives for low- and middle-income contributors in the form of higher contribution match rates.

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Low-paid workers: How many live in low-income families?

Lucy Chung

Low-wage jobs are a perennial topic of interest for labour market and social analysts. Almost two million Canadians, aged 20 or older, work for less than \$10 an hour, with about one-third being the only wage earner in the family (Maxwell 2002).

Simply being employed is no longer enough to exempt a person from economic and social risks. Low-wage workers are less likely to have access to non-wage benefits such as pension plans, supplemental health insurance, and dental plans. Furthermore, low-wage jobs are more likely to be temporary or part-time and less likely to be unionized. Jobs with no certainty of continuing, with less input into working conditions, less regulatory protection, and low wages have been termed 'precarious' (Rodgers 1989).

The primary question, however, is whether low wages represent a serious impediment to an individual's quality of life. Changes in economic family structure over the years have meant that fewer families have only one breadwinner, and as women's employment rate has increased, more families have multiple and secondary earners. On the other hand, the number of lone-parent families has increased, and a single minimum-wage job in these circumstances may not be economically sufficient.¹ Using the census, this article explores which groups of individuals were at risk of being low-wage earners in 2000, what proportion of them lived in low-income families, and how the situation changed between 1980 and 2000.

Those more likely to have low weekly earnings

In 2000, about 1.7 million Canadians were in low-paid, full-time jobs, representing 16% of all full-time employees—only a slight (1%) increase from two decades earlier (see *Distribution of wage earners in Canada*). Although the overall proportion did not change much, some groups saw their propensity to have low earnings increase substantially (Table 1).

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Distribution of wage earners in Canada

	Full-time employees	Low-paid workers	
		Total	In low income
		'000	
Total	10,270	1,675	502
Sex		%	
Men	56.9	42.3	51.3
Women	43.1	57.7	48.7
Education			
Less than high school	18.7	30.2	32.1
High school diploma	25.6	32.5	30.2
Postsecondary certificate	35.7	29.4	28.8
University degree	20.0	8.0	8.8
Age			
15 to 24	8.2	22.6	20.8
25 to 34	24.0	24.0	26.3
35 to 44	31.4	25.1	27.9
45 to 54	26.2	19.2	17.6
55 to 64	10.2	9.0	7.5
Immigrant status			
Recent	3.0	5.0	7.2
Mid-term	6.0	8.2	10.7
Long-term	11.4	8.8	8.6
Canadian-born	79.7	78.1	73.4
Visible minority			
Yes	12.1	15.7	20.6
No	87.9	84.3	79.4
Canadian-born			
Visible minority	1.5	1.6	1.6
Non visible minority	78.2	76.5	71.8
Recent immigrant			
Visible minority	2.1	4.0	5.8
Non visible minority	0.9	1.0	1.5
Mid-term immigrant			
Visible minority	4.2	6.4	8.8
Non visible minority	1.8	1.9	1.9
Long-term immigrant			
Visible minority	4.3	3.8	4.4
Non visible minority	7.1	4.9	4.2
Family status			
Married/common law	68.3	56.3	41.0
Lone fathers	1.4	0.9	1.6
Lone mothers	4.4	6.2	11.6
Living with relatives	1.9	3.3	2.3
Unattached individuals	4.6	6.5	17.0
Less than 40	3.4	5.2	13.9
40 and over	1.2	1.3	3.1
Living alone	10.6	8.7	20.4
Unmarried, living with parents	9.0	18.1	6.2
Disabled			
Yes	9.1	11.1	12.6
No	90.9	88.9	87.4

Source: Census of Population, 2001

Table 1: Proportion of wage earners who were low-paid workers

	Men		Women	
	1980	2000	1980	2000
	%			
Total	9.0	12.1	26.1	21.9
Education				
Less than high school	12.5	19.0	38.6	39.2
High school diploma	10.0	15.6	26.0	27.0
Postsecondary certificate	6.4	9.2	19.5	19.0
University degree	3.6	5.4	7.6	7.8
Age				
15 to 24	23.9	39.9	39.7	52.4
25 to 34	6.6	12.2	19.9	21.5
35 to 44	4.7	8.5	21.8	19.0
45 to 54	5.1	8.0	23.4	17.1
55 to 64	6.8	10.5	24.4	20.9
Immigrant status				
Recent	12.1	20.5	36.4	36.4
Mid-term	7.6	17.4	24.6	28.4
Long-term	5.2	9.3	21.4	16.8
Canadian-born	9.5	11.8	26.4	21.5
Visible minority				
Yes	10.1	17.2	26.1	26.0
No	8.9	11.5	26.1	21.3
Canadian-born				
Visible minority	10.2	16.6	19.3	17.7
Non visible minority	9.5	11.8	26.4	21.6
Recent immigrant				
Visible minority	15.9	23.8	38.7	40.1
Non visible minority	8.0	13.0	33.2	26.8
Mid-term immigrant				
Visible minority	7.7	19.7	21.6	30.7
Non visible minority	7.5	12.3	26.6	22.8
Long-term immigrant				
Visible minority	6.8	11.6	19.3	17.8
Non visible minority	5.1	8.0	21.5	16.1
Family status				
Married/common law	5.1	8.4	25.1	20.5
Lone fathers	7.0	10.7	...	...
Lone mothers	...	...	23.6	23.3
Living with relatives	18.9	26.3	28.3	31.0
Unattached individuals	16.7	20.0	30.9	28.4
Less than 40	16.3	22.2	31.3	30.7
40 and over	18.6	13.5	28.8	22.5
Living alone	9.6	12.2	15.9	15.1
Unmarried, living with parents	27.4	31.1	41.0	36.7
Disabled				
Yes	..	15.1	..	26.3
No	..	11.8	..	21.4

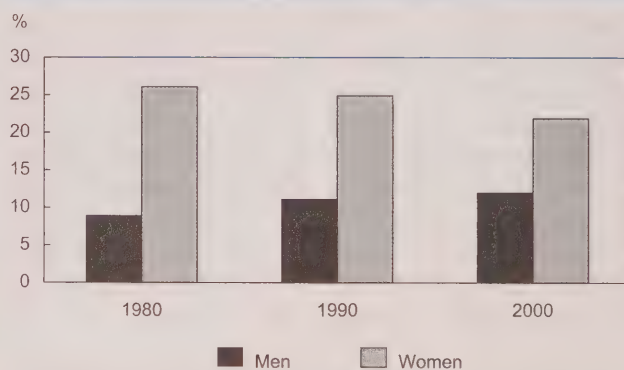
Source: Census of Population, 1981 and 2001

Shading indicates difference is not significant at the 5% level.

Women

Women employees were almost twice as likely as men to have low weekly earnings (Chart A).² One explanation may be that women are more likely to be in low-paying occupations (Drolet 2001, 2002). Traditional occupations for women, such as clerical, sales and service, yield lower earnings on average than others (Statistics Canada 2003). Women also average fewer years of experience since they are more likely to take time off for family-related reasons. However, with the narrowing of the earnings gap between men and women (Drolet 2002), the proportion of low-paid women decreased from 26% to 22% between 1980 and 2000.

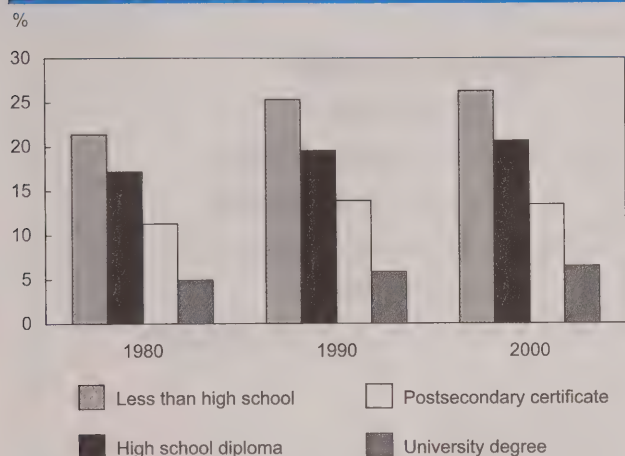
On the other hand, the percentage of low-paid men increased over this time from 9% to 12%—largely because of a drop in the real wages of young men during the 1980s in most industries and occupations (Morissette 1998). Another factor is the increase in men entering jobs that have traditionally been dominated by women—teaching, service, clerical and some manufacturing occupations (Hughes 1990). Although men in these occupations still earn more than women, they earn less than the average male employee.³

Chart A: The proportions of low-paid men and women have been converging.

Source: Census of Population, 1981 to 2001

The less educated

Individuals with less than high school education had a higher incidence of low pay than those with higher levels of educational attainment (Chart B).⁴ This pattern held for both men and women. About 1 in 4 employees with less than high school education had

Chart B: Regardless of education, the proportion of low-paid workers has increased.

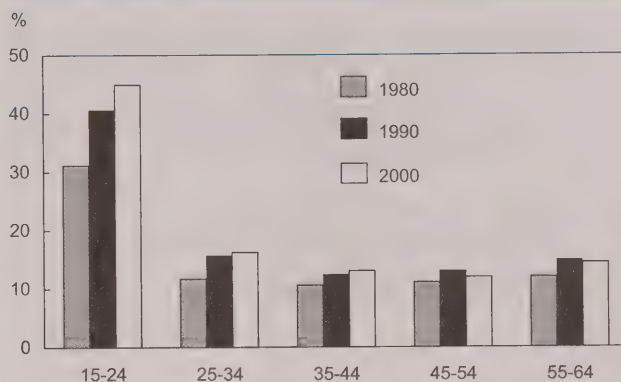
Source: Census of Population, 1981 to 2001

low weekly earnings in 2000, unchanged between 1980 and 2000, although the probability of being a low-wage earner increased for men in each education category.

Women were more likely than men to be in low-paid jobs, even with the same educational attainment. In 2000, the proportion of women with less than high school education who were low-paid workers was twice that of men (39% and 19% respectively). The gap decreased with level of education. While men with less than high school were more likely to be low-paid in 2000 than 20 years earlier, the percentage for women changed very little.

The young

The probability of having low weekly earnings in 2000 was highest among young employees (aged 15 to 24) at 45% (Chart C). The rate declined sharply until age 55, after which it increased slightly. This is to be expected since the labour market tends to reward both experience and job tenure. Moreover, many young workers are concentrated in relatively low-wage industries such as consumer services. The same pattern was evident in 1980, although the proportion of low-wage earners was lower (31% for young workers in 1980 compared with 45% in 2000). The rise in women's employment rate may have affected young workers. Increased competition has meant that jobs they once held (for example, in services or sales) are

Chart C: The proportion of low-paid workers under 25 has jumped since 1980.

Source: Census of Population, 1981 to 2001

being filled by women, and more youths than before may find themselves with low earnings (Sunter 1994). Once again, in all age groups, higher proportions of women than men were low-paid workers. However, while the risk of having low weekly earnings increased between 1980 and 2000 for men in all age groups, it decreased for women who were 35 or older.

Immigrants

In 2000, recent and mid-term immigrants were more at risk of having low weekly earnings than immigrants who had been in Canada for more than 15 years or those who were Canadian-born. This may be related to the adjustment phase that newcomers experience. The likelihood of having low weekly earnings increased between 1980 and 2000 for immigrants, perhaps because of a shift in national origin from Europe and the United States to less developed countries (Borjas 1991; Picot 2004). The latter immigrants receive less credit for foreign experience and may face greater difficulties having their skills or credentials recognized (Picot and Hou 2003). While the risk of having low weekly earnings rose for male immigrants⁵ and for mid-term female immigrants, it fell for long-term female immigrants.

Visible minorities

Visible minorities born in Canada were similar to their non-visible-minority counterparts—a difference of only one percentage point in the proportion with low weekly earnings.⁶ A greater gap was found between visible-minority and non-visible-minority immigrants

(Hum and Simpson 1998). The greatest difference was seen among recent immigrants (31% for visible minorities and 19% for non-visible minorities) and decreased with time spent in Canada.⁷

Recent and mid-term visible-minority immigrants saw their risk of low weekly earnings rise between 1980 and 2000.⁸ The likelihood rose for recent and mid-term, non-visible-minority immigrant men but fell for women.

Individuals with work limitations

Individuals limited at work because of a physical, mental or health condition were more likely to have low weekly earnings than those without limitations. Whether their chances of having low weekly earnings fell between 1980 and 2000 cannot be assessed since the census question regarding work limitation changed.⁹

Individuals living with relatives

Individuals living with relatives but not part of a census family have a high risk of low weekly earnings (Chart D). The incidence of low-paid workers among this group increased—from 23% in 1980 to 28% in 2000.¹⁰ Whether these arrangements are born out of need or familial responsibility cannot be assessed with these data.

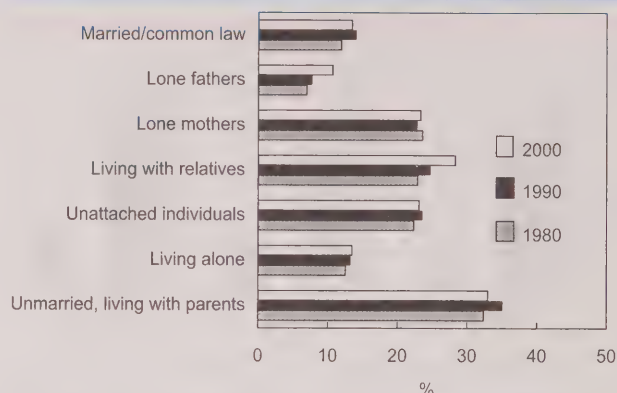
Lone mothers

Almost 1 in 4 lone mothers working as an employee in 2000 had low weekly earnings (23%). Because they require flexible hours for taking children to school or child-care centres, lone mothers may find their job prospects restricted. They also tend to choose occupations and industries that are easy to enter and exit, such as consumer services where wages are generally lower.¹¹ Also, given the strain of raising children on their own, lone mothers are often less healthy than mothers with spouses (Pérez and Beaudet 1999). This could also deter them from working in high-pay, stressful environments.

Unattached individuals

Unattached individuals were also vulnerable to having low weekly earnings—those under 40 more so than those older (25% and 17% respectively). While unattached women were more likely to receive low pay than their male counterparts, the proportion fell between 1980 and 2000, especially among women 40 or older. Among unattached men, the risk of low weekly earnings rose for those under 40 while falling for those older.

Chart D: Individuals living with relatives had the largest proportional increase of low-paid workers.



Source: Census of Population, 1981 to 2001

Low-paid workers living in low-income families

Those most financially constrained by low-paid jobs are living in low-income families. Of the 1.7 million full-time workers receiving low weekly earnings, 30% lived in families with low income in 2000—unchanged from 1980 (Table 2).¹²

Unattached or living alone

For most groups of low-paid workers, the risk of being in low income is not much greater than for other groups. However, some are more vulnerable than others. Over three-quarters of unattached individuals and over two-thirds of those living alone with low weekly earnings in 2000 were living in low-income households (Chart E). In the case of these two groups, individual income is equivalent to family income, and not having live-in economic partners makes them financially insecure. Nevertheless, their risk of living in low income decreased between 1980 and 2000, the proportion falling by 3 percentage points for individuals living alone and 5 points for unattached individuals. In particular, low-paid unattached women aged 40 or older saw their low-income propensity decrease by 10 percentage points, from 79% to 69%.

Lone parents

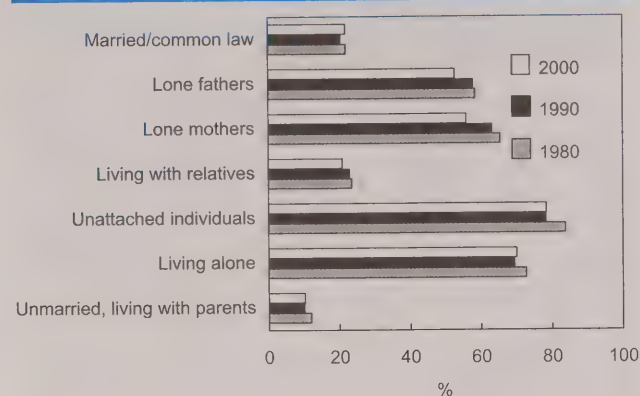
Lone parents with low weekly earnings are also at risk of being in low income. In 2000, 56% of low-paid lone mothers and 53% of lone fathers also had low family income. These individuals were predominately

Table 2: Proportion of low-paid workers in low-income families

	Men		Women	
	1980	2000	1980	2000
	%			
Total	39.3	36.4	24.1	25.3
Education				
Less than high school	40.4	38.1	24.4	26.7
High school diploma	32.3	33.9	22.4	23.6
Postsecondary certificate	40.5	36.4	24.1	25.0
University degree	48.0	39.1	33.3	28.7
Age				
15 to 24	29.0	27.0	26.8	28.2
25 to 34	48.9	40.1	26.2	27.7
35 to 44	57.7	45.8	20.6	26.1
45 to 54	46.6	38.2	17.8	21.0
55 to 64	36.7	30.4	22.3	20.3
Immigrant status				
Recent	53.5	54.0	30.9	36.3
Mid-term	49.4	45.9	25.9	34.3
Long-term	44.6	37.8	18.9	23.7
Canadian-born	37.6	34.1	24.1	23.9
Visible minority				
Yes	51.9	45.1	35.1	35.0
No	38.6	34.7	23.5	23.6
Canadian-born				
Visible minority	32.5	33.2	27.8	29.3
Non visible minority	37.7	34.2	24.1	23.8
Recent immigrant				
Visible minority	57.2	52.5	36.7	37.3
Non visible minority	45.5	59.8	21.3	32.3
Mid-term immigrant				
Visible minority	53.6	46.9	35.5	37.5
Non visible minority	47.2	42.4	21.0	23.2
Long-term immigrant				
Visible minority	40.8	40.4	29.5	30.4
Non visible minority	44.8	35.7	18.4	18.7
Family status				
Married/common law	47.1	35.9	12.1	13.9
Lone fathers	58.4	52.6	...	...
Lone mothers	...	...	65.5	55.9
Living with relatives	23.8	21.8	23.3	19.8
Unattached individuals	82.1	78.0	85.2	78.8
Less than 40	82.7	78.5	86.4	81.9
40 and over	79.5	75.7	78.6	68.5
Living alone	77.5	72.4	69.5	67.5
Unmarried, living with parents	12.8	10.8	11.0	9.2
Disabled				
Yes	..	39.9	..	29.7
No	..	36.0	..	24.8

Source: Census of Population, 1981 and 2001

Shading indicates difference is not significant at the 5% level.

Chart E: The proportion of low-paid workers living in low-income families decreased for most family types.

Source: Census of Population, 1981 to 2001

sole earners. In contrast, only 14% of low-paid married women had low family income. Lone mothers, however, were less likely to be in this situation in 2000 than in 1980.¹³

Men

While the incidence of living in low income rose slightly among low-paid women, it decreased three percentage points among men—from 39% to 36%. Although female full-time employees have a higher risk than their male counterparts of making low weekly earnings, low-paid men are more at risk of being in a low-income family. In 2000, the proportion of men with low weekly earnings in low-income families (36%) exceeded the rate for women (25%). In particular, almost half of middle-aged men (age 35 to 44) with low-paid jobs lived in low-income families, compared with 26% of their female counterparts. This suggests that, in this age group, more low-paid women than men live with family members (for example, a spouse) who can compensate for their low earnings.

Recent immigrants

The proportion of visible-minority recent immigrants who were low-paid and living in low income did not change significantly between 1980 and 2000. However, this was not the case for other recent immigrants—for men the risk jumped from 46% to 60% and for women from 21% to 32%.¹⁴ In contrast, it decreased

among their Canadian-born counterparts. More than half of recent immigrant men in low-paid jobs lived in low-income families in 2000—53% of visible minorities and 60% of others.

Employees working full time for low pay and living in a low-income family

In 2000, 5% of all full-time employees had low earnings *and* lived in low-income families (Table 3). However, this average again masks substantial differences across groups. For instance, more than 22% of unattached women employed full time had low weekly earnings and lived in low income, compared with 16% of unattached men. The proportion for lone mothers was 13% compared with less than half that for lone fathers. Recent and mid-term immigrants, particularly visible minorities, were also more likely to live in low-income families and to have low-paid jobs.

The overall proportion of low-paid employees living in low-income families was virtually static between 1980 and 2000. However, this does not mean that the individuals remained the same. In fact, younger workers, recent and mid-term immigrants (especially visible-minority immigrant men), and unattached men under 40 saw their chances of having low pay and low family income rise. In contrast, low-paid unattached women saw theirs decrease.

Despite their unchanged proportion, low-paid employees saw their average weekly earnings fall between 1980 and 2000. In fact, while average weekly earnings of full-time employees rose by 11% from \$785 in 1980 to \$868 in 2000 (Table 4), those of low-paid workers dropped from \$251 to \$231 (-8%). For low-paid workers in low-income families, they dropped even more—from \$211 to \$175 (-17%, Table 5). Thus, despite no increase in the incidence of low-paid workers in low-income families, these individuals seemed to be worse off than before.

Average weekly earnings fell among most low-paid employees. Some were affected more than others. Individuals with less than high school education saw theirs fall by 9%. Low-paid immigrant women experienced a larger drop than immigrant men—even though the likelihood of being a low-paid worker increased more for these men. And visible-minority women saw a greater decrease than their non-visible minority counterparts. Although single mothers saw theirs fall by the same proportion as married women (8%), the earnings of single fathers dropped almost 3 percentage points more than married men.

Table 3: Proportion of wage earners who were low-paid and lived in low-income families

	Men		Women	
	1980	2000	1980	2000
	%			
Total	3.5	4.4	6.3	5.5
Education				
Less than high school	5.0	7.2	9.4	10.5
High school diploma	3.2	5.3	5.8	6.4
Postsecondary certificate	2.6	3.3	4.7	4.7
University degree	1.7	2.1	2.5	2.2
Age				
15 to 24	6.9	10.7	10.7	14.7
25 to 34	3.2	4.9	5.2	6.0
35 to 44	2.7	3.9	4.5	4.9
45 to 54	2.4	3.1	4.2	3.6
55 to 64	2.5	3.2	5.4	4.3
Immigrant status				
Recent	6.5	11.1	11.2	13.2
Mid-term	3.7	8.0	6.4	9.7
Long-term	2.3	3.5	4.0	4.0
Canadian-born	3.6	4.0	6.4	5.1
Visible minority				
Yes	5.2	7.7	9.2	9.1
No	3.4	4.0	6.1	5.0
Canadian-born				
Visible minority	3.3	5.5	5.4	5.2
Non visible minority	3.6	4.0	6.4	5.1
Recent immigrant				
Visible minority	9.1	12.5	14.2	14.9
Non visible minority	3.6	7.8	7.1	8.7
Mid-term immigrant				
Visible minority	4.1	9.2	7.7	11.5
Non visible minority	3.6	5.2	5.6	5.3
Long-term immigrant				
Visible minority	2.8	4.7	5.7	5.4
Non visible minority	2.3	2.8	4.0	3.0
Family status				
Married/common law	2.4	3.0	3.0	2.9
Lone fathers	4.1	5.6	...	...
Lone mothers	...	...	15.4	13.0
Living with relatives	4.5	5.7	6.6	6.2
Unattached individuals	13.7	15.6	26.3	22.4
Less than 40	13.5	17.4	27.0	25.2
40 and over	14.8	10.2	22.6	15.4
Living alone	7.4	8.9	11.0	10.2
Unmarried, living with parents	3.5	3.4	4.5	3.4
Disabled				
Yes	..	6.0	..	7.8
No	..	4.3	..	5.3

Source: Census of Population, 1981 and 2001

Shading indicates difference is not significant at the 5% level.

Table 4: Average weekly earnings of full-time wage earners who were low-paid

	Men		Women	
	1980	2000	1980	2000
	\$			
Total wage earners	911	988	575	709
Total low-paid workers	241	222	257	238
Education				
Less than high school	240	218	253	232
High school diploma	253	229	262	238
Postsecondary certificate	237	220	261	244
University degree	227	222	241	234
Age				
15 to 24	256	236	257	234
25 to 34	232	228	255	242
35 to 44	218	212	257	238
45 to 54	225	210	259	238
55 to 64	238	214	255	235
Immigrant status				
Recent	243	227	266	241
Mid-term	225	219	262	233
Long-term	217	207	262	236
Canadian-born	244	224	255	239
Visible minority				
Yes	240	221	265	234
No	241	222	256	239
Canadian-born				
Visible minority	251	220	259	229
Non visible minority	244	224	255	239
Recent immigrant				
Visible minority	247	231	269	240
Non visible minority	234	213	263	243
Mid-term immigrant				
Visible minority	230	221	261	230
Non visible minority	223	212	262	240
Long-term immigrant				
Visible minority	243	213	276	235
Non visible minority	215	203	262	238
Family status				
Married/common law	229	214	260	241
Lone fathers	226	205	...	...
Lone mothers	...	...	250	231
Living with relatives	250	228	253	235
Unattached individuals	238	232	237	239
Less than 40	240	234	239	239
40 and over	230	223	223	238
Living alone	234	221	255	235
Unmarried, living with parents	256	235	257	232
Disabled				
Yes	..	213	..	227
No	..	223	..	239

Source: Census of Population, 1981 and 2001

Shading indicates difference is not significant at the 5% level.

Data source and definitions

The study used the 1981 to 2001 Censuses. Deriving hourly wages from census data is difficult because weekly hours of work refer to the week previous to the census (usually in May or June) while annual earnings and weeks worked refer to the previous year.

To overcome this difficulty, only individuals who worked mainly full time in the year prior to the census were selected. Their annual earnings were divided by the number of weeks they worked to calculate weekly earnings. Low pay was defined as less than \$375 weekly in 2000 dollars (using province-specific deflators). Assuming 37.5 hours per week, this definition amounts to examining individuals whose hourly earnings were less than \$10 per hour, the cut-off used in some previous studies.

The sample consisted of individuals aged 15 to 64, who were not full-time students, worked mainly full time, and received a wage or salary but no income from self-employment in the year prior to the census.

Recent immigrants arrived in Canada during the five years prior to the census reference year. **Mid-term immigrants** arrived 6 to 15 years before, and **long-term immigrants** more than 15 years before. For example, for the reference year 2000, recent immigrants arrived from 1995 to 1999, mid-term immigrants from 1985 to 1994, and long-term immigrants prior to 1985.

Unattached individuals live with others but are not related to them and do not share income with them (for example, boarders or roommates).

Low-income cut-offs (LICOs) are established using the Survey of Household Spending (or its predecessor, the Family Expenditure Survey). They are the income level at which a family spends 20 percentage points more than the average of its before-tax, after-transfer income on basic necessities. LICOs vary by family and community size. For example, in 2000, the LICO for a family of two living in a community of 500,000 or more was \$22,964. For a family of seven or more in the same region, the LICO was \$46,793.

Even though the average weekly earnings of low-paid workers fell by 8%, their annual earnings rose by 6%, suggesting that they were working more weeks (Table 6).¹⁵ A decline of over \$1,500 in average family earnings was dampened by an increase of almost \$1,500 in other income and transfers. Thus, average economic family income of low-paid workers did not change significantly from 1980 to 2000, leading to no change in the 30% proportion of low-paid workers living in low-income families.¹⁶

Table 5: Average weekly earnings of low-paid workers living in low-income families

	Men		Women	
	1980	2000	1980	2000
	\$			
Total	202	169	218	181
Education				
Less than high school	203	161	213	171
High school diploma	209	178	223	184
Postsecondary certificate	195	161	226	185
University degree	208	191	212	189
Age				
15 to 24	219	190	223	200
25 to 34	199	176	218	187
35 to 44	188	161	220	175
45 to 54	185	158	207	167
55 to 64	197	143	207	160
Immigrant status				
Recent	219	197	240	199
Mid-term	182	175	220	176
Long-term	169	161	212	170
Canadian-born	206	166	217	181
Visible minority				
Yes	212	182	233	183
No	202	166	217	180
Canadian-born				
Visible minority	189	161	235	176
Non visible minority	206	166	217	181
Recent immigrant				
Visible minority	227	201	243	201
Non visible minority	200	183	233	188
Mid-term immigrant				
Visible minority	200	179	224	177
Non visible minority	172	159	216	169
Long-term immigrant				
Visible minority	205	171	228	173
Non visible minority	167	151	211	166
Family status				
Married/common law	191	151	204	148
Lone fathers	207	169	...	...
Lone mothers	...	...	234	196
Living with relatives	211	161	217	181
Unattached individuals	220	208	224	216
Less than 40	222	211	226	220
40 and over	211	194	207	202
Living alone	213	188	228	198
Unmarried, living with parents	206	140	201	148
Disabled				
Yes	..	162	..	172
No	..	170	..	182

Source: Census of Population, 1981 and 2001

Shading indicates difference is not significant at the 5% level.

Table 6: Average income of low-paid workers by type of income

Type of income	1980	2000	Change
	\$		%
Weekly earnings	251	231	-7.9
Individual annual earnings	9,500	10,100	6.3
Other earnings from EF*	29,500	27,900	-5.6
EF market income	2,500	2,900	14.1
EF government transfers	4,000	5,200	27.9
EF total income	45,700	46,100	1.0
Size-adjusted EF total income**	24,100	25,000	3.5

Source: Census of Population, 1981 and 2001

* Earnings from other members of the economic family (EF).

** Total income divided by the square root of family size.

Shading indicates difference is not significant at the 5% level.

Summary

The proportion of low-paid workers among full-time employees has changed little over the last two decades (15% in 1980 and 16% in 2000), and the proportion of low-paid workers living in low-income families has remained at 30%. As a result, the percentage of full-time employees who were both receiving low pay and living in low income also remained unchanged at 5%.

Individuals most likely to have low weekly earnings were women, those with less than high school education, young adults, recent and mid-term immigrants in visible-minority groups, individuals living with relatives, lone mothers, unattached individuals under 40, and persons with a work limitation.

Those most at risk of receiving low pay and living in low-income families were young adults, recent and mid-term immigrants in visible-minority groups, lone mothers, and unattached individuals.

Between 1980 and 2000, average weekly earnings of low-paid workers decreased by 8%, while those of all full-time employees increased by 11%. However, the proportion of low-paid workers living in low-income families remained just under one-third.

■ Notes

- 1 In 1980, lone parents accounted for 3.6% of all full-time employees; in 2000, the proportion was 5.7%.
- 2 All comparisons in this article are statistically significant at the 5% level.
- 3 Changing family structure and responsibilities since 1980 may also have contributed to the increased proportion of men in low-paid jobs. Given their growing interest and involvement in child care, more men may be choosing jobs with more flexibility in hours over ones with better pay but requiring more hours (Marshall 1998). This, however, may be more likely among men with higher earnings who can afford a slight pay cut. In addition, since women are participating more in the labour force and are attaining higher-paying jobs, men may no longer be the major family earner.
- 4 In the late 1990s, the average master's or PhD graduate made twice the wages of people with less than high school education (Statistics Canada 1998).
- 5 This is consistent with other research indicating that the entry earnings of recent immigrant cohorts deteriorated in the last two decades (Frenette and Morissette 2003; Aydemir and Skuterud 2004).
- 6 However, this masks offsetting effects between men and women. Canadian-born visible minority men are more likely to receive low pay than Canadian-born, non-visible minority men. In contrast, Canadian-born visible minority women are less likely to receive low pay than Canadian-born non-visible minority women.
- 7 This agrees with other recent studies showing that visible-minority immigrants are more vulnerable to low earnings than other immigrants (Palameta 2004).
- 8 The increase in the incidence of low-paid workers among recent female immigrants who are members of a visible minority group is not significant at the 5% level.
- 9 The wording of the question was changed in the 2001 Census of Population from "Is this person limited in the kind or amount of activity that he/she can do because of a long-term physical condition, mental condition or health problem—a) at home, b) at school or at work, c) in other activities" to "Does a physical condition or mental condition or health problem reduce the amount or the kind of activity this person can do—a) at home, b) at work or at school, c) in other activities."
- 10 The majority of low-paid workers in this group are Canadian-born and not in a visible-minority group.

11 According to the 2001 Census, 44% of lone mothers who are employees worked in services (administrative and support; waste management and remediation; education; health care and social assistance; arts, entertainment and recreation; accommodation and food; and other).

12 Family income is defined as the pre-tax, post-transfer income of all family members. An unattached individual is treated as an economic family.

13 The decrease in risk for low-paid lone mothers and unattached women aged 40 and over was due to an increase in government transfers and a rise in annual earnings respectively.

14 The main reason for this was the substantial decline in spousal and other family members' earnings.

15 In 1980, full-time employees worked an average of 44 weeks, compared with 47 in 2000.

16 Little change occurred in the average size-adjusted family income of low-paid workers in low-income families, suggesting that the unchanging proportion of low-paid workers in low income did not mask any worsening of their economic conditions.

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We welcome your views on articles and other items that have appeared in *Perspectives*. Additional insights on the data are also welcome, but to be considered for publication, communications should be factual and analytical. We encourage readers to inform us about their current research projects, new publications, data sources, and upcoming events relating to labour and income.

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Retaining older workers

René Morissette, Grant Schellenberg and Cynthia Silver

Given the growing number of people nearing retirement, concerns about the social and economic consequences of a mass exit from the workforce have spurred interest in increasing the labour force participation of older workers.¹ A key issue is how amenable older workers would be to employer strategies and public policies designed to encourage them to remain on the job.

Possibly some older workers would retire later if offered flexible work arrangements, such as part-time hours or fewer annual workweeks. Others might postpone retirement if pension income were not affected or if they were offered salary increases. Naturally, some would be unable to continue working because of health problems. This article uses the 2002 General Social Survey to explore these issues for some 1.8 million individuals who retired between 1992 and 2002 (see *Data source*).

Incentives would have kept some retirees in the workforce

The 2002 GSS asked retired respondents what factors might have influenced them to continue working (Table 1). Over one-quarter indicated they might have changed their decision to retire if they had been able to reduce their work schedule without their pension being affected, either by working fewer days (28%) or shorter days (26%). In addition, just under one-fifth would have been influenced by more vacation leave. Altogether, 31% cited at least one of these three pension-related reasons.² The importance of work arrangements is also shown by the 28% who would have continued working on a part-time basis.

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Data source

The 2002 General Social Survey (GSS) targeted all persons 45 and older residing in the 10 provinces except full-time residents of institutions.

The GSS used a subjective definition of retirement. First, individuals who reported their main activity during the previous 12 months as 'retired' were identified as retirees. Individuals with another main activity were asked "Have you ever retired?" Those who said yes were also identified as retirees, even if they had since returned to the workforce. Individuals who had never retired were asked a follow-up question that probed further:

Retirement does not necessarily mean stopping work permanently. Have you ever retired in any of the following circumstances?

- You became eligible for a pension or put in enough years for a pension.
- You received an early retirement package.
- You significantly reduced the amount of work you did for a business or farm you operated in order to retire.
- You were permanently laid off or lost a job and did not look for work or gave up looking for work in order to retire.
- You retired from a job or significantly reduced your work time because of your health.
- You retired from a job or significantly reduced your work time because you could afford to live on your savings/investments.
- You retired from a job or significantly reduced your work time because you could afford to live on your spouse's/partner's investment or retirement income.
- You reduced your work time because of the health of your spouse or relative.

Those who responded yes to any part of the follow-up question were also classified as retirees.

The analysis is limited to **recent retirees**—those who (first) retired between 1992 and 2002. This was done to focus on the characteristics and experiences of individuals who made the transition into retirement in recent years. The sample was also restricted to individuals 50 or older, resulting in the exclusion of a few respondents who retired earlier. The final sample was 4,464.

Table 1: Possible incentives for continuing to work

	Both sexes	Men	Women
		'000	
Total	1,763	949	814
With no pension effects		%	
Working fewer days	28.3	29.1	27.5
Working shorter days	25.6	26.0	25.2
More vacation	19.0	19.6	18.4
Part-time work	27.8	28.3	27.2
Better health	26.5	26.7	26.2
Salary increase	21.2	22.0	20.4
No mandatory retirement	11.8	12.0	11.7
Suitable caregiving	6.3	6.7	5.8 ^E
Other	11.3	9.8	13.0

Source: General Social Survey, 2002

Health problems were a consideration for many recent retirees; 27% said they would have continued working if their health had been better. Just over 21% would have continued working if their salary had been increased, although by how much was not asked. Fewer would have continued working if mandatory retirement policies had not existed (12%) or if they could have found suitable caregiving arrangements (6%). In all cases, men and women responded very similarly.

Health considerations

Overall, 60% of recent retirees indicated a willingness to continue working if certain incentives had existed. Undoubtedly, this overstates the extent to which older workers constitute a potential supply of labour since the capacity of some to remain in the workforce was limited by health problems. It is therefore important to examine the combination of factors that would have enabled or encouraged them to continue working.

One-third of recent retirees retired for health reasons (Table 2). The percentages are higher for self-employed individuals (40%) than for employees (31%), likely reflecting older retirement ages of self-employed workers. Since alternative work arrangements and retirement policies would likely not affect the retirement decision of these individuals, they are excluded from the discussion of older workers as a potential supply of labour.

Another third of recent retirees did not retire for health reasons and would not have continued working for any of the reasons offered. The remaining third—healthy individuals who would have been willing to remain in the workforce (at least partly)—clearly offer the best prospect for increasing the overall supply of labour.

Table 2: Factors affecting retirement

	Total*	Emple- ees	Self- employed
		'000	
Total retirees	1,681	1,335	263
		%	
Retired for health-related reasons	33.4	30.6	39.5
Would not have continued working	35.3	34.9	40.8
Would have continued working under different conditions	31.2	34.4	19.7
Working arrangements only**	7.8	8.4	5.8
Other factors only†	8.4	9.1	6.2
Working arrangements and other factors	15.0	16.9	7.7

Source: General Social Survey, 2002

* Includes those with no class of worker code.

** Working fewer days without affecting pension; working shorter days without affecting pension; increased vacation without affecting pension; and part-time work.

† Salary increase, no mandatory retirement, suitable caregiving arrangements, and other factors.

About a quarter of these healthy individuals, representing 8% of all recent retirees, would have continued working if alternative working arrangements had been available.³ Almost half (15% of recent retirees) would have kept working in light of such arrangements combined with other factors. Within this group, the other factors most frequently cited were salary increase (80%), no mandatory retirement policy (35%), suitable caregiving arrangements (8%), and other reasons (23%). The remaining quarter (8% of all recent retirees) would have continued working for reasons other than working arrangements. Within this group, the most frequently cited were 'other reasons' (58%), salary increase (24%), and no mandatory retirement (24%).

Table 3: Former employees not retiring for health-related reasons who might have continued working, by personal characteristics

	Change desired			Both
	Total	Working time	Other factors	
		'000		
Total	461	112	122	226
Age at retirement		%		
50 to 59	53	14	14	25
60 to 64	44	11 ^E	13 ^E	20
65	56	9 ^E	11 ^E	35 ^E
66 or older	45	10 ^E	11 ^E	24 ^E
Education				
Less than high school	43	10 ^E	14 ^E	19 ^E
High school diploma	51	11 ^E	12 ^E	28
Postsecondary certificate or diploma	52	15 ^E	15 ^E	23
University degree	53	14 ^E	12 ^E	28
Spouse's education				
No spouse present	52	8 ^E	16 ^E	27
Less than high school	45	12 ^E	14 ^E	18
High school diploma	49	13 ^E	11 ^E	24
Postsecondary certificate or diploma	53	17 ^E	10 ^E	26 ^E
University degree	54	12 ^E	13 ^E	29
Housing tenure				
Rented	54	10 ^E	17 ^E	26 ^E
Owned	49	12	13	24
Immigration status				
Immigrant	53	12 ^E	9 ^E	32
Canadian-born	49	12	14	22
Financial situation since retirement				
Better	45	11 ^E	13 ^E	21 ^E
About the same	45	12	12	21
Worse	62	13 ^E	17 ^E	33
Life satisfaction since retirement				
Better	45	12	11	21
About the same	54	12 ^E	15	27
Worse	62	F	23 ^E	30 ^E
Sex				
Men	52	14	13	25
Women	48	10 ^E	14	24

Source: General Social Survey, 2002

Profile of those willing to continue working

While the above paints a broad picture of preferences regarding retirement, it leaves several questions unanswered. First, who would be most likely to keep

working if working arrangements were the only consideration? For instance, flexible work arrangements might not influence the retirement decision of employees working at physically demanding jobs for an extended period of time. On the other hand, those whose financial position has deteriorated after retirement or who are having a hard time finding new activities might be willing to reconsider their decision.

Second, who would continue working only if other factors were changed in addition to work arrangements? Third, who would be unlikely to be swayed even in these circumstances? Would former employees in goods-producing industries react differently than their counterparts in services? Would education level play a role?

One-half of all former employees who did not retire for health-related reasons said they would have kept working if alternatives had been offered⁴ (Table 3). Twelve percent cited alternative working arrangements; almost a quarter indicated both working arrangements and other factors; and the remaining 13%, other factors only.

These simple averages mask important differences between groups. For instance, 28% of those with a high school diploma or university degree would have kept working if both working arrangements and other factors had been altered, compared with 19% of those with no high school diploma. The same combination of changes was indicated by one-third of those who had been offered early retirement incentives, compared with one-fifth of those who had had no early incentive (Table 4).

From an industry perspective, no more than 20% of individuals formerly employed in health care, social assistance and education; or accommodation and food services would have kept working even if both working arrangements and other factors had been altered (Table 4). The extent to which job quality discourages older workers from remaining in the workforce cannot be addressed with the GSS. Overall, if alternatives had been offered, about 60% of individuals formerly employed in utilities, transportation and warehousing; trade; and information, culture and recreation would have continued to work, compared with about 45% in construction; health care, social assistance and education; and accommodation and food industries. One reason for the lower rate among construction workers may be that physically demanding jobs are unattractive to older workers.

Table 4: Former employees not retiring for health-related reasons who might have continued working, by job characteristics

	Change desired			
	Total	Working time	Other factors	Both
Total	461	112	122	226
		'000		
Early retirement incentive		%		
Yes	58	15 ^E	10 ^E	33
No	46	11	14	21
Receiving pension income				
Yes	51	14	11	26
No	48	10 ^E	17	22
Occupation				
Management	55	14 ^E	14 ^E	27 ^E
Professional	46	13 ^E	12 ^E	21 ^E
Technical	52	F	F	30 ^E
Clerical	52	12 ^E	12 ^E	28 ^E
Sales and service	50	10 ^E	19 ^E	21 ^E
Trades, transport and equipment operators	51	15 ^E	12 ^E	24 ^E
Unique to primary, processing, manufacturing and utilities	48	12 ^E	F	28 ^E
Industry				
Agriculture and other primary	52	F	F	F
Utilities, transportation and warehousing	60	18 ^E	12 ^E	30 ^E
Construction	45	F	F	F
Manufacturing	49	12 ^E	11 ^E	26 ^E
Trade	58	11 ^E	19 ^E	28 ^E
Finance, insurance, real estate, professional and business	53	15 ^E	12 ^E	27 ^E
Health care, social assistance and education	44	13 ^E	12 ^E	19 ^E
Information, culture and recreation	63	F	19 ^E	36 ^E
Accommodation, food and other services	40	F	F	20 ^E
Public administration	47	9 ^E	13 ^E	25 ^E
Employment status				
Full-time/full-year	50	13	12	25
Not full-time/full-year	48	10 ^E	18 ^E	21 ^E

Source: General Social Survey, 2002

Multivariate analysis

Do these qualitative patterns hold when healthy retirees with similar characteristics are compared? A multivariate analysis was used to examine how answers varied according to age at retirement, sex, education level (own and spouse's), occupation and industry of prior

employment, and several other characteristics.⁵ The analysis was limited to those who were employees prior to retirement.⁶

Compared with their counterparts aged 60 to 64, retirees aged 50 to 59 were more likely to report that they would have continued working. If only alternative working

arrangements are considered, 14% would have stayed, slightly more than the 12% observed for those aged 60 to 64 (Table 5).⁷ Those who retired at 65 were much more likely than their younger counterparts to have been willing to continue working if, in addition to working arrangements, other factors such as mandatory retirement policies had been altered.

Retirees with a university degree were among the most likely to have continued working under different working arrangements (with or without other factors). This may be attributable to their relatively high levels of job satisfaction or less physically demanding jobs. Alternative work arrangements appear to be an important consideration for employers keen on retaining highly educated workers.

Immigrants and retirees who received early retirement incentives were much more likely to have considered continuing to work given other factors in addition to alternative working arrangements. Retirees formerly employed in health care, social assistance and education were the least likely to report preferences for continuing to work. This suggests less scope for retaining older workers in these industries—a consideration that takes on added importance given their disproportionately large shares of employees approaching retirement (Statistics Canada 2004).

Does a worsening financial situation in retirement affect one's view of continuing to work? Unambiguously, the answer is yes. Among comparable retirees, those whose financial situation had deteriorated since retirement were much more likely to wish they had been offered alternative working arrangements.

Table 5: Probability of wanting to keep working

	Change desired		
	Working time	Other factors	Both
Age at retirement		%	
50 to 59	14	12	29
60 to 64*	12	11	25
65	9	8	44
66 or older	11	7	29
Education			
Less than high school	11	10	24
High school diploma*	11	10	30
Postsecondary certificate or diploma	15	12	26
University degree	14	11	38
Spouse's education			
No spouse present	9	13	33
Less than high school*	14	12	22
High school diploma	13	9	29
Postsecondary certificate or diploma	17	8	30
University degree	12	11	35
Early retirement incentives			
Yes	13	8	42
No*	12	12	25
Immigration status			
Immigrant	12	10	31
Canadian-born*	13	15	23
Occupation			
Management	12	13	26
Professional	13	10	23
Technical	14	7	38
Clerical	12	10	31
Sales and service	11	15	28
Trades, transport and equipment operators	14	11	31
Unique to primary, processing, manufacturing and utilities*	13	6	38
Industry			
Agriculture and other primary	11	17	27
Utilities, transportation and warehousing	16	10	39
Construction	14	7	32
Manufacturing*	11	11	30
Trade	13	11	39
Finance, insurance, real estate, professional and business	16	9	31
Health care, social assistance and education	13	10	21
Information, culture and recreation	9	17	38
Accommodation, food and other services	9	10	29
Public administration	8	11	29
Financial situation since retirement			
Better	12	11	25
About the same*	12	10	27
Worse	14	13	37
Life satisfaction since retirement			
Better	12	9	26
About the same*	13	12	32
Worse	12	18	31

Source: General Social Survey, 2002

* Reference group

Probabilities in shaded areas differ from those of the reference group at the 5% level.

Conclusion

Admittedly, retrospective questions about retiring must be treated cautiously since it is impossible to determine if a different course of action would have been taken. Responses may overstate the willingness of individuals at the time to continue working, particularly if they have found their retirement to be less satisfying than expected. In retrospect, continued employment may look appealing. Conversely, even those retirees who said they would not have been willing to continue working might have done so if offered a job with enough pay and the right conditions.

Despite such limitations, the findings offer some insight for the future. Alternative working arrangements appear to be an important consideration in encouraging older workers to remain in the workforce. Over one-quarter of retirees in the sample would have been willing to continue working if part-time employment had been available. Similarly, a significant proportion said that continued employment would have been an attractive option if they had been able to work fewer hours without their pension being affected. The importance of working arrangements is also evident in the 42% who returned to the workforce on a part-time basis.

However, the circumstances and conditions that shaped the experiences of retirees in the 1990s may be quite different from those in the years ahead. In a context of tighter labour markets, it is unlikely that organizations will as readily offer early retirement incentives. Indeed, in the public sector, spending on such incentives reached a peak in 1996, declining through the rest of the decade (Kieran 2001). The

This may reflect unexpected declines in living standards after retirement. Poor knowledge of one's employer-sponsored pension plan is an important consideration in this respect (Morissette and Zhang 2004).

opportunities open to individuals facing retirement may change in the near future, as may the extent to which they are willing to remain in the workforce.

Perspectives

■ Notes

1 This concern has been clearly expressed by the Organisation for Economic Co-operation and Development: "Population ageing means that, in the absence of any change in patterns of labour market participation, the labour force is likely to fall in relative, and even in a few countries perhaps in absolute, terms over the coming decades with major consequences for economic growth, public finance and living standards. This is why raising the employment rate for older workers is so critical." (OECD 2002, 10).

2 A considerable number of retirees who did not receive income from employer pension plans in 2002 responded to these questions, perhaps because they understood such plans to include the Canada and Quebec Pension Plans. When the analysis is limited to individuals who received income from an employer pension plan, the proportion who would have continued working if they had been able to reduce their time at work without their pension being affected rises to 37%.

3 Alternative working arrangements include fewer days without pension being affected, shorter days without pension being affected, vacation leave increased without pension being affected, and part-time work.

4 The corresponding percentage for former self-employed individuals is only 33%. This no doubt reflects the greater flexibility that self-employment offers in terms of working arrangements and autonomy.

5 The other control variables were owning a house; received an early retirement incentive; receiving pension income; employed full year, full-time prior to retirement; no change, deterioration, or improvement in financial position since retirement; and enjoyment of life as much, more, or less since retirement.

6 The one-third of recent retirees who left the labour force for health reasons are excluded from the multivariate analysis. The one-third of recent retirees who did not leave the workforce because of health limitations and who said they would not have continued working even if circumstances had been different is used as a comparison benchmark. The multivariate analysis is based on a multinomial logit model and essentially compares the three 'would have stayed' groups in Table 2 with the 'would not have stayed' group.

7 The probabilities shown in Table 4 are obtained by setting the other covariates to their mean values.

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Employment trends in nursing

Wendy Pyper

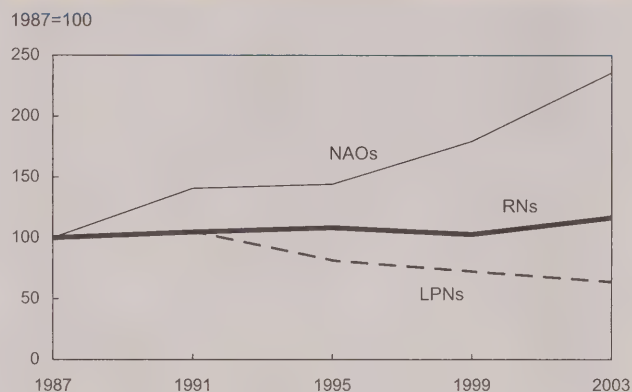
Nurses make up the largest proportion of health workers in Canada. Whether in hospitals, home care or nursing care facilities, they play an integral role in the health care system, which touches the life of every Canadian. These days they are under increasing pressure as their employers are faced with fewer resources for providing patient care. Several factors have come into play: an aging workforce that is fast approaching retirement; declining enrolment in nursing programs throughout the 1990s; and fiscal restraint, which has promoted more use of lower-paid unregulated workers (CNA 1995; CPNA 1999; RNAO 1996). The result has been a smaller ratio of regulated nurses to population amid reports of an overworked and overstressed nursing workforce (Baumann et al. 2001).

Using the Labour Force Survey (LFS) and the Survey of Labour and Income Dynamics (SLID), this article examines the changing occupational composition of workers in the health care sector. It looks at employment trends between 1987 and 2003 for the two regulated nursing professions: registered nurses (RNs) and licensed practical nurses (LPNs),¹ and compares them with the unregulated nurse aides and orderlies group (NAOs). With SLID, respondents can be tracked over several years (see *Data sources and definitions*).

Employment trends different for regulated nursing occupations

Between 1987 and 2003, the number of employed registered nurses increased by 17%, reaching 259,800 in 2003 (Chart A).³ The number of employed LPNs was fairly steady throughout the mid-1990s, but decreased substantially in the late 1990s and the beginning of this century, resulting in an almost 40% decline over the period to 49,100. This is in sharp contrast to

Chart A: Employment more than doubled between 1987 and 2003 for nurse aides and orderlies.



Source: Labour Force Survey

the unregulated NAOs, whose employment increased steadily and substantially, more than doubling to 188,800. This growth was much larger than the 28% growth in overall employment.

One factor contributing to the stagnant number of nurses may be enrolment in nursing programs, which fell from almost 40,000 in 1990-91 to 28,800 in 1998-99 (Galarneau 2004).⁴

Immigration provides another possible source of nurses. However, this does not appear to be a large factor for RNs or LPNs. In 2002, 7% of employed RNs were graduates of a foreign nursing program, a percentage that remained roughly constant from 1998 to 2002 (CIHI 2003b).⁵ Only 2% of LPNs (excluding Quebec for which data were not available) were foreign-trained (CIHI 2003a). Overall, the flow into nursing from outside Canada seems to be small.⁶

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Data sources and definitions

The **Labour Force Survey (LFS)** is a monthly household survey that provides labour market information and demographic characteristics for the civilian non-institutional population 15 years of age and over. The LFS is the source of cross-sectional information in this article.

The **Survey of Labour and Income Dynamics (SLID)** provides the longitudinal information. SLID began in 1993 and follows people for six years. Every three years, a new panel of 15,000 households is added, representing about 30,000 individuals aged 16 to 69. Respondents complete two detailed questionnaires each year. To increase sample size, the study combined two panels between 1999 to 2001, the most recent period available. If a person held a job or jobs for only one year during the period 1999 to 2001, they were removed from the sample. There are three possibilities regarding jobs held: A worker could hold only one job during this three-year time frame; more than one job, but never more than one at a time (could change jobs, but never having overlapping jobs); or more than one job at a time (a multiple jobholder). Only the first two types of workers (those with only one job at a time) are included in the discussion on full-time and part-time status. In the remaining longitudinal analysis, all types of workers are included (both single and multiple jobholders). Here the characteristics of the main job were selected for those holding more than one job at a time.

Strictly speaking, the term **nurse** refers to a registered nurse. However, in this study, it refers to either registered nurses (RNs) or licensed practical nurses (LPNs).² For RNs (which includes head nurses and supervisors), education at either the community college or university level is followed by a national exam and registration process. LPNs, however, require different education levels depending on the jurisdiction. Following the completion of training, LPNs are required to pass a national exam. Generally, LPNs work under the supervision of RNs.

In addition to these two regulated nursing professions, there is a group of unregulated workers: nurse aides and orderlies (NAOs). These generally work in conjunction with the two regulated nursing professions and include health care aides, long-term care aides, personal care attendants, and medical orderlies (see *Patient care providers in Ontario* for an example of the differences). While NAOs do not have the educational requirements of the two nursing occupations, they provide an important part of

hands-on patient care, especially in nursing and residential care facilities and home health care settings. As such, they are included in this study for comparison.

Over 80% of jobs in these occupational groups were held by women in 2003. The percentage was as high as 93% for RNs and LPNs, and 89% for NAOs (data not shown).

Job absences (see Akyeampong 2002 for more details)

Incidence of absence: percentage of full-time employees reporting some absence in the reference week.

Days lost per worker: hours lost as a proportion of the usual weekly hours of all full-time employees multiplied by the estimated number of working days in the year (250).

Occupational groups

D112 Registered nurses + D111 Head nurses and supervisors

D233 Registered nursing assistants

D312 Nurse aides and orderlies

Industry categories

Health care sector:

Hospitals

General medical and surgical hospitals

Psychiatric and substance abuse hospitals

Specialty (except psychiatric and substance abuse) hospitals

Nursing and residential care facilities

Nursing care facilities

Residential developmental handicap, mental health and substance abuse facilities

Community care facilities for the elderly

Other residential care facilities

Home health care services

Other ambulatory health care services

Offices of physicians

Offices of dentists

Offices of other health practitioners

Out-patient care centres

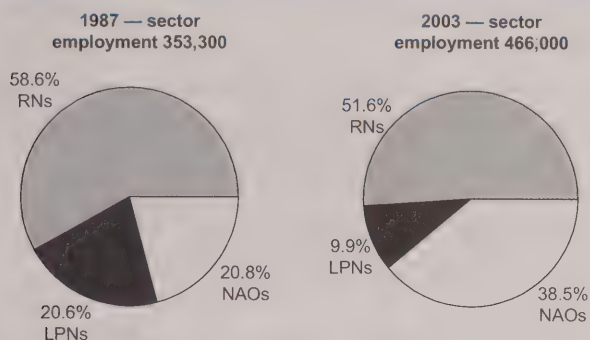
Medical and diagnostic laboratories

Other ambulatory health care services

Accompanying the declines in nursing employment has been a growth in Canada's population. As a result, the per capita ratio of nurses has dropped. While the trend for RNs was generally downward, the decline for LPNs was more pronounced—from 291 per 100,000 people in 1987 to 155 by 2003. At the same time, the ratio for NAOs virtually doubled from 300 to roughly 600 per 100,000.

The changing face of patient care

Traditionally, RNs and LPNs have been the primary providers of patient care. However, one method of controlling costs since the late 1980s seems to have been an increase in the patient-care role of unregulated nurse aides and orderlies (CNA 1995; CPNA 1999; RNAO 1996).⁷ In 1987, 21% of workers in patient-care occupations⁸ were unregulated NAOs (Chart B), but by 2003, this had jumped to 39%. Over the same period, LPNs declined

Chart B: Nurse aides and orderlies are becoming a larger part of health care.

Source: Labour Force Survey

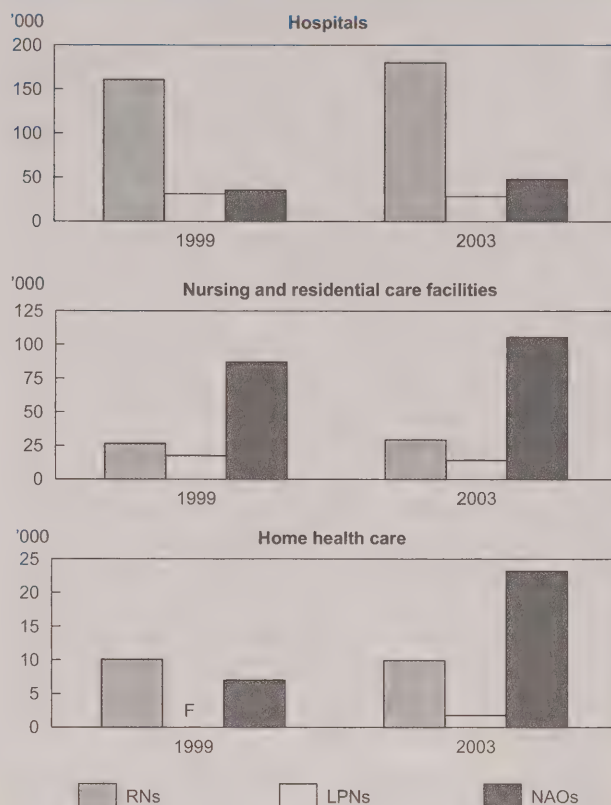
from 21% to just 10%, and RNs from 59% to 52%. Although the regulated nursing workforce remains predominant, lower-paid unregulated NAOs are becoming increasingly more common as care providers.

Nurses and unregulated NAOs are found in various parts of the health care sector.⁹ Nurses are most often thought to work in hospitals, yet these experienced the smallest employment growth between 1987 and 2003 while other areas grew substantially. In 1987, 71% of patient-care workers were employed in the hospital industry. By 2003, this had declined substantially to 55% (Table 1). While overall employment in the health care sector grew 32% over the period, growth for the three patient-care occupations in hospitals was only 3%. The occupational composition within the hospital industry saw little change from 1999 to 2003, with over two-thirds of workers being RNs (Chart C).¹⁰

Table 1: Patient-care workers by industry

	1987	1991	1995	1999	2003
	%				
Health care	100	100	100	100	100
Hospitals	71	68	61	57	55
Nursing care facilities	22	26	32	33	32
Home health	2	1	2	5	7
Other ambulatory	5	4	5	5	5

Source: Labour Force Survey

Chart C: Occupational composition differs among industries.

Source: Labour Force Survey

The second most common area for the nursing workforce was nursing and residential care facilities, employing 32% of patient-care workers in 2003, up from 22% in 1987. Patient-care employment has grown and will likely continue to grow in these facilities as the population ages. This area saw a slight increase in the proportion of NAOs (from 66% in 1999 to 71% in 2003) because of two factors: First, employment among NAOs increased more quickly than among RNs; second, the number of LPNs declined.

Employment in home health care has undergone substantial changes since the late 1990s. While employment among the nursing workforce and NAOs has increased markedly, this industry is still very small, employing only 7% of these workers in 2003. However, the

relative share of NAOs increased dramatically, reaching two-thirds of patient-care workers in 2003, compared with 38% in 1999.

The aging workforce in nursing

An often discussed issue is the aging of the regulated nursing workforce. With more RNs approaching the traditional retirement age, the Canadian Institute for Health Information projects that by 2006, Canada could lose up to 13% of its 2001 RN workforce (O'Brien-Pallas, Alksnis and Wang 2003). A similar situation faces LPNs: Assuming a retirement age of 55, over half could be eligible to retire by 2012 (CIHI 2003a).

Indeed, the Labour Force Survey shows a substantial increase in the proportion of RNs aged 50 or older—the rate doubling from 15% in 1987 to 30% in 2003. LPNs mirrored this increase. Over the past decade, many new graduates were unable to find full-time employment as older nurses with more seniority obtained or retained nursing positions. As a result, some young nurses left Canada or the nursing profession entirely (CNAC 2002). Declining enrolment in nursing programs and the increasing proportion of workers approaching retirement age raise real concerns as to whether enough younger nurses will be available to replace those retiring.

NAOs experienced a slightly smaller increase in their percentage of older workers. In 1987, 18% of NAOs were 50 or older, compared with 28% in 2003. This group is also facing potential shortages because of their aging workers. Given the aging of the general population and the accompanying demands on the health care system, shortages could well occur in nursing and related occupations, especially if this trend continues.¹¹

Rising education levels

Educational requirements for registered nurses have evolved over the past several decades. Early in the 1990s, they required either a three-year nursing diploma from a community college or a four-year bachelor's degree from a university. By the end of the decade though, most provinces announced that the initial nursing educational requirement would be a four-year baccalaureate (CIHI 2003b). Indeed, the LFS illustrates this change. In 1990, 16% of RNs had a university degree (baccalaureate or master's), compared with 26% in 2003 (Table 2). The increase is seen not only at the baccalaureate level but also at the master's

level—from 1.4% in 1990 to 3.9% in 2003. For LPNs, educational requirements have also changed, with training offered in postsecondary institutions as opposed to hospitals (CIHI 2003a). The LFS shows some change in the education level of LPNs, but it is less than for RNs.

The NAOs show two trends. First, fewer are less educated; the proportion having a high school diploma or less decreased from 47% in 1990 to 31% in 2003. At the same time, the proportion with a university degree increased slightly (from 4% in 1990 to 6% in 2003). Several factors may be contributing to these trends, including age structure and immigration.

Table 2: Education levels

	1990	1997	2003
All occupations		%	
Less than high school	26.8	18.5	15.0
High school graduate	22.8	20.5	20.3
Postsecondary certificate or diploma	36.0	42.5	43.8
University degree	14.4	18.5	20.9
Registered nurses			
Less than high school	1.8	F	F
High school graduate	3.3	2.0	1.6
Postsecondary certificate or diploma	79.4	77.0	72.1
Bachelor's degree	14.1	17.7	22.1
Master's degree	1.4	2.8	3.9
Licensed practical nurses			
Less than high school	5.3	F	F
High school graduate	7.3	5.8	7.3
Postsecondary certificate or diploma	84.7	86.3	87.2
University degree	2.9	6.0	4.7
Nurse aides and orderlies			
Less than high school	27.4	15.8	12.6
High school graduate	19.6	16.0	18.2
Postsecondary certificate or diploma	49.1	62.0	63.2
University degree	3.7	6.2	5.9

Source: Labour Force Survey

Very low unemployment rate among nurses

With declines in enrolment in RN programs (and only small increases for LPNs), low numbers of immigrant nurses, and an aging workforce, one might expect full employment. In fact, the unemployment rate of RNs is extremely low compared with the 7.6% for the

general workforce (Table 3). Indeed, after peaking in 1992 at 2.4%, the rate for RNs dropped almost steadily. It was somewhat higher for NAOs—2.7% in 2003—but still much lower than the general unemployment rate.

Table 3: Unemployment, part-time employment, and voluntary part-time employment rates

	1987	1995	2003
Unemployment rate		%	
All occupations	8.8	9.4	7.6
Registered nurses	1.7	2.1	F
Licensed practical nurses	1.9	3.0	F
Nurse aides and orderlies	4.0	3.0	2.7
Part-time employment rate			
All occupations	16.8	18.9	18.8
Registered nurses	30.6	33.0	28.9
Licensed practical nurses	32.3	34.4	29.1
Nurse aides and orderlies	30.6	31.7	33.6
	1997	2000	2003
Voluntary part-time employment		%	
All occupations	69	75	72
Registered nurses	67	81	82
Licensed practical nurses	55	69	64
Nurse aides and orderlies	49	59	54

Source: Labour Force Survey

Majority working full time, but many are part-timers

Aside from the periodic snapshots from the LFS, SLID presents a longitudinal picture showing that over 60% of workers in the patient-care occupations who held a job (only one at a time) in at least two years between 1999 and 2001 worked full time in each year (Table 4). This holds for both the regulated and unregulated occupations. Roughly 65% of RNs and 67% of LPNs always held full-time jobs compared with 63% of NAOs. However, these rates are significantly lower than the overall almost 8 in 10 workers.

Both RNs and LPNs have very high rates of part-time work compared with the general working population (CIHI 2003b). For RNs, the rate hovered around 30% over the 1987 to 2003 period; for LPNs, it ranged between 29% and 36%; and for NAOs, between 31% and 36% (Table 3). In comparison, the part-time rate

for all occupations was only 19% in 2003. The high part-time rate in the nursing profession is at least partially due to the high percentage of women in these occupations. Longitudinally, 15% of RNs worked part time in each year they held a job between 1999 and 2001 (Table 4), indicating some stability in their work arrangements.

Part-time by choice

Between 1987 and 2003, roughly 30% of RNs and LPNs worked part time. Were full-time jobs not available or did they work part time by choice? The LFS, which asks part-time workers if they choose to work part time, shows an 82% voluntary part-time rate for RNs in 2003—well above the overall rate of 72% (Table 3).¹²

The rate fluctuated somewhat over time, increasing for RNs from 67% in 1997 to 81% in 2000 and remaining fairly steady through to 2003. A similar increase occurred for LPNs. Their rate rose from 55% in 1997 to 69% in 2000, varied somewhat after 2000, and stood at 64% in 2003. In comparison, the proportion of NAOs who chose to work part time rose from 49% to 54% over the period. One reason for the relatively low proportion of voluntary part-time NAOs may be their lower earnings, which could make part-time work less preferable.

Looking longitudinally, SLID shows that many workers in these occupations consistently preferred to work part time. Almost 8 in 10 RNs who worked part time between 1999 and 2001 always did so by choice. For LPNs, the proportion was 6 in 10 (Table 4).

Do nurses working part time in their main job hold other jobs? Only 7% of all part-time workers held more than one job at a time in 1987, with the rate increasing slightly by 2003. In 2003, 12% of RNs who worked part time in their main job held multiple jobs, a slight increase from 9% in 1987. LPNs showed a similar pattern. The multiple jobholding rate for NAOs rose as well, from 8% in 1987 to 13% in 2003. So, while 40% of NAOs worked part time involuntarily, only 13% of those whose main job was part-time had another job at the same time in 2003.

Temporary job trends differ for RNs and LPNs

One indicator of job stability and quality is permanence. Unlike a permanent job, a temporary job has a pre-determined termination date or is linked to the end of a project or contract. Such jobs are generally

Patient care providers in Ontario

	RNs and LPNs	Unregulated care providers
Who they are	Regulated under the <i>Regulated Health Professions Act</i> .	Not regulated through legislation or accountable to any board, college or institution.
What they do	<p>"The practice of nursing is the promotion of health and the assessment of, the provision of care for, and the treatment of health conditions by supportive, preventive, therapeutic, palliative and rehabilitative means in order to attain or maintain optimal function." —<i>Nursing Act</i>, 1991</p> <p>Authorized to perform controlled acts such as injections.</p>	<p>Provide services under the direction of an RN, LPN, client, family member, employer or other regulated health professional.</p> <p>Assist with routine care activities.</p> <p>Cannot perform controlled acts unless delegated by a regulated health professional.</p>
Educational requirements	<p>Graduation from an approved nursing education program.</p> <p>Successful completion of national nursing registration exams.</p>	No minimum educational requirements. Training may be received on the job or through community college or private programs.
Accountability	Accountable to their clients, College of Nurses in Ontario, and their employer.	<p>Accountable to their employer, not to any external body.</p> <p>No regulatory body to set standards or monitor quality of service.</p>

Source: College of Nurses of Ontario. Utilization of Unregulated Care Providers (UCPs), 2004.

Table 4: Work arrangements, 1999 to 2001

	All occupations	RN	LPN	NAO
		%		
Full time each year	78	65	67	63
Mix of full time and part time	12	20	16 ^E	21
Part time each year	10	15	17 ^E	16 ^E
Working part time				
Did so voluntarily in each year	74	77	59 ^E	67

Source: Survey of Labour and Income Dynamics

Note: Does not include workers holding multiple jobs.

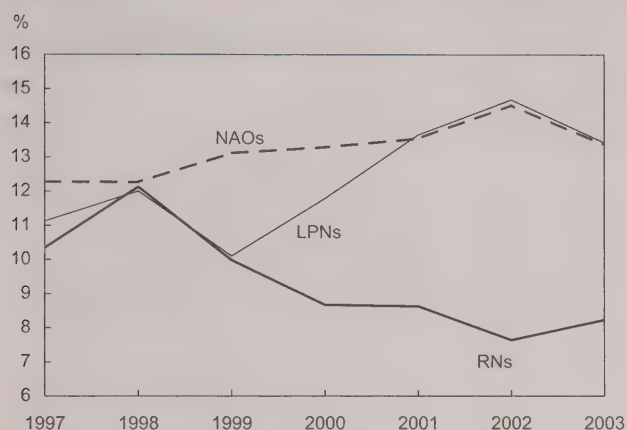
considered to be less secure. In 1997, the proportion of RNs in temporary jobs stood at 10%. The rate peaked at 12% in 1998, and then fell to 8% in 2003 (Chart D). LPNs followed a similar pattern between 1997 and 1999, but subsequently the two paths diverged, with the proportion of LPNs in temporary jobs reaching 13% in 2003. More LPNs and fewer RNs now

faced the uncertainty associated with temporary jobs. Although NAOs had higher rates of temporary employment, their rate increased only slightly over the period.

Working at a temporary job for a short time is very different from doing so year after year.¹³ For RNs with a paid job (including multiple jobs) in at least two years between 1999 and 2001, 78% held permanent jobs in each year (Table 5). For LPNs, the rate was 83%; and for NAOs, 72%.

Both wage and non-wage benefits differ

Not surprisingly, given the different responsibilities and education requirements, average hourly

Chart D: Temporary job trends differ for RNs and LPNs.

Source: Labour Force Survey

earnings differ widely between the two regulated nursing occupations. In 2003, RNs averaged just over \$26 per hour, 40% higher than LPNs (almost \$19) (Table 6). In contrast, the less educated and unregulated NAOs earned less than \$15. In real terms, over the 1997-2003 period, hourly earnings for RNs increased about \$2 (roughly 9%)—a very different picture from LPNs, whose hourly earnings actually declined, and NAOs, whose remained relatively constant.

Non-wage benefits, such as employer-sponsored insurance and pension plans, are other indicators of job quality (Marshall 2003). Two-thirds of RNs and LPNs who held paid jobs between 1999 and 2001 had insurance coverage in all years (Table 5). This was much higher than the overall employed population and the non-regulated NAOs—both at 51%. Similarly, over 60% of regulated nurses had a retirement plan, a much higher proportion than workers overall. A relatively small percentage of RNs had no insurance or retirement plan. These results are likely

due to differing unionization rates—higher levels of unionization are generally associated with higher levels of non-wage benefits (Marshall 2003). In fact, the 80% unionization rate for both RNs and LPNs is substantially higher than the overall workforce. However, unionization does not appear to guarantee coverage since NAOs, who have fairly high unionization rates (almost 70%), were less likely to receive non-wage benefits (only 51% received benefits in all three years). This could be explained by this group's relatively high level of temporary employment.

Nurses consistently more stressed and absent more often

Stress can affect both physical and psychological well-being. While some level of stress is unavoidable, studies have shown that it is related to psychological distress and health problems, especially in the long term (Shields 2004; Wilkins and Beaudet 1998). Half of all workers reported feeling very or somewhat stressed in all years between 1999 and 2001.¹⁴ While this rate seems quite high, it is even higher for those in the regulated nursing professions. Two-thirds of RNs reported being very or somewhat stressed in each of the years between 1999 and 2001, slightly higher than LPNs. Levels for NAOs were about the same as those in the general working population.

Table 5: Job benefits, 1999 to 2001

	All occupations	RNs	LPNs	NAOs
		%		
Permanent job in each year	72	78	83	72
Insurance coverage				
Each year	51	69	68	51
Some years	22	22	22 ^E	25
Never	27	9	10 ^E	24
Retirement plan				
Each year	31	65	61	43
Some years	25	23	20 ^E	27
Never	44	12	19 ^E	30
Very or somewhat stressed in each year	51	67	60	48

Source: Survey of Labour and Income Dynamics

Note: Includes workers holding multiple jobs, where information from the main job is used when multiple jobs are held.

Table 6: Average hourly earnings

	1997	2003
	\$	
All occupations	17.69	18.06
RNs	23.97	26.13
LPNs	19.00	18.89
NAOs	14.44	14.60

Source: Labour Force Survey

Note: 2003 constant dollars, for employed employees only.

Work absences are another indicator of occupational well-being (Table 7). In 2003, 10% of full-time RNs reported a work absence, a somewhat higher rate than for all full-time workers (7%).¹⁵ NAOs, however, were even more likely to be absent (12% in 2003). The vast majority of these days were due to illness or disability (data not shown)—not surprising given their almost constant exposure to ill patients and the demands of the job. Taking into account the length of absence, the average number of workdays lost per full-time worker was much higher for nurses and

Table 7: Absence rates and days lost

	1997	2003
Absence rates	%	
All occupations	5.5	7.3
RNs	9.0	9.8
LPNs	10.3	11.0
NAOs	10.2	11.9
Days lost	Days	
All occupations	7.4	9.1
RNs	16.3	15.4
LPNs	16.8	17.6
NAOs	18.4	18.6

Source: Labour Force Survey

Note: Full-time employees excluding maternity leave. See Akyeampong 2002 for details.

NAOs. The latter lost the most days: 19 in 2003, compared with 15 and 18 for RNs and LPNs respectively and substantially more than all full-time workers. These results paint a difficult picture for many in the nursing professions, suggesting that the perception of a stressed nursing workforce may be accurate.

Summary

Registered nurses and licensed practical nurses play a prominent role in the hands-on patient care of Canadians. However, since 1987 there has been only a marginal increase in the number of RNs and a substantial decline in LPNs. This, coupled with the aging of the nursing population and declining enrolment in nursing programs, suggests that concerns of a looming nursing shortage may be valid.

The LFS provides support for the notion that a shift has occurred in the occupational composition of patient care from RNs and LPNs to less-educated, lower-paid NAOs over the past 17 years. For example, of the patient-care workers, 39% were NAOs in 2003, compared with 21% in 1987. In the home health care industry, the relative share of NAOs represented two-thirds of patient-care workers in 2003, up from 38% in 1999.

Nurses remain central to the health care sector. It is not surprising that their unemployment rate is extremely low compared with the general working population. The work arrangements of nurses differ substantially from those of other workers. It is commonly believed that many working part time would prefer to work full time. Indeed in 2003, they were much more likely than other workers to work part time (30% of RNs

and 36% of LPNs). However, most did so by choice—8 in 10 part-time RNs reported choosing to work less than full time.

Perspectives

Notes

1 A third category is registered psychiatric nurses, who are licensed and regulated as a separate profession in Manitoba, Saskatchewan, Alberta and British Columbia. However, in the LFS, this profession is grouped with RNs, so separate analysis is not possible.

2 This category is sometimes called 'registered practical nurses' or 'registered nursing assistants.' In this article, the term used is 'licensed practical nurses.'

3 Estimates using the LFS at this detailed level of occupation may be slightly different from other sources such as the Census or administrative records such as the Registered Nurses Database used in many CIHI reports. Sampling and non-sampling errors explain these differences.

4 The number of LPN graduates increased from 2,600 in 1988 to 2,800 in 2000 (CIHI 2001). The comparable figures for graduating RNs are 9,200 in 1988 and 5,100 in 1999. Unfortunately, 15 schools (approximately 12 to 15%) did not respond to the CNA survey in 1999. As a result, the figure for 1999 is an undercount of the number of graduates.

5 While graduating from a foreign nursing program does not necessarily mean that the graduate is an immigrant, it is an indicator of migration. 'Foreign graduates' include Canadians who attended nursing school outside Canada, but who returned to work in Canada. Similarly, 'Canadian graduates' include students from foreign countries who graduated from a Canadian nursing school (CIHI 2003b).

6 The recognition of foreign credentials of nurses is an important issue, but it is complex and beyond the scope of this article.

7 In 2000, nurse supervisors and registered nurses working full year, full time had an average employment income of \$46,600. For licensed practical nurses, the figure was \$32,600, and for nurse aides and orderlies, \$27,200.

8 The term 'patient care' refers to the group of occupations composed of RNs, LPNs and NAOs.

9 While not all nurses are employed in the health care sector, the vast majority are. This section, related to industries, discusses only the health care sector.

10 There appear to be some problems with the data series by industry and occupation at this level of disaggregation. Part of the problem may be attributable to the NAICS classification, which began direct coding in 1999. As a result, this section is limited to the period from 1999 to 2003.

11 That is, if other changes do not occur, such as increased immigration of nurses. Immigration of nurses and the recognition of foreign credentials are important issues but beyond the scope of this article.

12 The number employed part time on a voluntary basis divided by the number employed part time. The rate is only calculated from 1997 onwards because of a change in LFS definitions.

13 Unfortunately, the sample size of SLID does not allow an examination of workers who repeatedly worked on a temporary basis in each year over the period from 1999 to 2001. Instead, the longitudinal aspect of holding permanent jobs is examined here.

14 Since SLID does not ask directly about work-related stress, the reported stress levels cannot be attributed entirely to employment. They do, however, provide an overall measure of stress.

15 See Akyeampong 2002 for details on work absences.

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Appendix: Provincial aspects

While national trends are important, provincial analysis of the nursing workforce is necessary since provincial policy largely determines health care. Nationally, the ranks of RNs increased 17% between 1987 and 2003. Ontario, with the largest number of RNs, increased 38% to 100,100 in 2003. While several other provinces also experienced large percentage increases, in absolute terms, the increases were smaller (Alberta, British Columbia, and several Atlantic provinces). Quebec, on the other hand, saw a decline—down 16% to 62,200 in 2003.

A very different picture emerges for LPNs whose numbers fell 36% over the period. Ontario represented almost two-thirds of the Canada-wide decline (-65%). Conversely, NAOs experienced growth in each province—substantial in Quebec and Ontario.

These different trends have resulted in changes in the occupational composition of patient-care workers. This is particularly evident in Quebec where RNs accounted for 68% of patient-care workers in 1987 compared with just 49% in 2003. LPNs also declined, resulting in a shift in the relative share of NAOs from 15% to 40%. Other provinces also experienced a large increase in their relative share of NAOs, generally at the expense of LPNs.

The proportion of RNs, LPNs (and to a lesser extent NAOs) aged 50 or older has increased substantially. British Columbia had a large proportion of RNs aged 50 and over (37% in 2003, an increase from 15% in 1987). The Atlantic provinces had fewer older regulated nurses in both 2003 and 1987. For the unregulated NAOs, there was very little difference between provinces.

Provinces differed somewhat in part-time employment rates for both regulated and unregulated patient-care workers. The largest differences existed among LPNs, where the rate ranged from 17% in Atlantic Canada to 45% in Quebec. Similarly, NAOs were most likely to work part time in Quebec (37%) and Ontario (36%), and least likely in the Atlantic

provinces (23%). For RNs, the part-time employment rate declined in all regions except Quebec, where it increased slightly from 30% in 1987 to 32% in 2003.

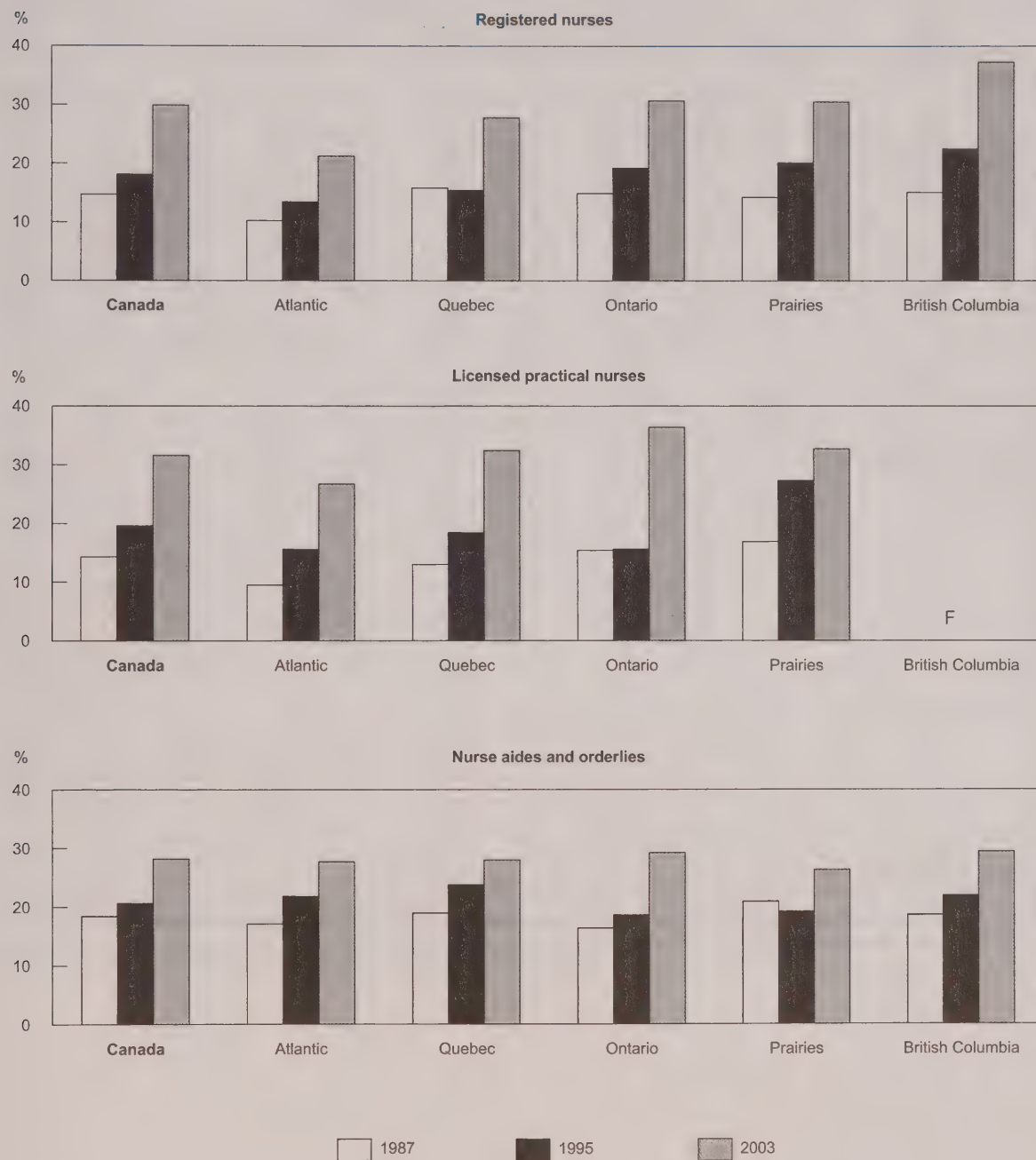
The vast majority of RNs working part time chose to do so—over 75% in all regions in 2003. In every region, fewer NAOs chose to work part time. In all regions except Quebec and the Prairies, less than half chose this arrangement. Interestingly, Quebec experienced the largest increase in the voluntary part-time rate in each of the three patient-care occupations.

Overall, those working in the regulated nursing occupations are highly unionized (83% for RNs and 85% for LPNs in 2003), but not all provinces have such high unionization rates. Ontario had the lowest rates for both regulated occupations (74% for RNs and 75% for LPNs) and also one of the lowest rates for NAOs (62%).

Hourly earnings for both the regulated nursing workforce and the unregulated NAOs differ widely by province. RNs, for example, earned more in the western provinces (\$28 per hour in Alberta and \$29 in British Columbia) than in the eastern provinces (\$24 in the Atlantic region). Between 1997 and 2003, increases in real hourly earnings for RNs ranged from a mere 2% in New Brunswick to 20% in Newfoundland and Labrador and 19% in Alberta. In each province, LPNs earned less per hour than RNs. However, LPNs in British Columbia earned the same as RNs in New Brunswick. LPNs in several provinces experienced declines in hourly earnings over the period: New Brunswick (-8%), Quebec (-6%), and Alberta (-3%).

The range in hourly earnings for NAOs was large: those in Newfoundland and Labrador earned \$10 in 2003 while those in British Columbia earned almost twice that (\$19.80). In fact, NAOs in British Columbia earned more per hour than LPNs in almost every province (except Ontario and British Columbia). NAOs in some provinces experienced a decline in earnings: New Brunswick (-10%) and Quebec (-5%).

Workers aged 50 or over



Source: Labour Force Survey

Employment, employment share and part-time employment by province

	Registered nurses			Licensed practical nurses			Nurse aides and orderlies		
	1987	1995	2003	1987	1995	2003	1987	1995	2003
Employment (1987=100)*									
Canada	100.0	108.4	116.6	100.0	81.5	63.8	100.0	144.1	235.7
Atlantic	100.0	131.3	131.2	100.0	91.4	102.7	100.0	114.2	184.1
Newfoundland and Labrador	100.0	173.6	185.2	100.0	81.2	62.5	F	153.7	635.7
Prince Edward Island	100.0	128.5	145.6	100.0	96.4	90.6	100.0	74.6	97.1
Nova Scotia	100.0	137.3	125.8	100.0	96.2	114.3	100.0	107.6	174.7
New Brunswick	100.0	106.0	109.2	100.0	104.1	172.2	100.0	122.0	135.2
Quebec	100.0	93.9	83.9	100.0	90.7	77.3	100.0	174.7	307.7
Ontario	100.0	112.5	137.7	100.0	80.0	35.5	100.0	159.2	258.5
Prairies	100.0	109.7	121.4	100.0	77.5	73.4	100.0	117.1	190.9
Manitoba	100.0	109.9	96.9	100.0	94.0	61.8	100.0	107.5	176.4
Saskatchewan	100.0	100.6	112.0	100.0	79.9	55.2	100.0	121.6	172.9
Alberta	100.0	113.5	138.7	100.0	66.4	88.0	100.0	122.5	220.1
British Columbia	100.0	122.3	136.3	100.0	59.0	74.1	100.0	128.9	186.0
Employment share					%				
Canada	58.6	57.3	51.9	20.4	15.0	9.9	21.0	27.6	38.2
Atlantic	51.1	58.6	50.2	25.8	19.6	19.2	23.1	21.8	30.6
Newfoundland and Labrador	43.1	60.1	53.0	51.5	31.9	20.3	F	8.0	26.7
Prince Edward Island	41.7	53.7	51.5	23.3	21.9	18.1	35.0	24.3	30.4
Nova Scotia	50.8	59.0	47.8	20.4	15.9	16.7	28.8	25.1	35.5
New Brunswick	58.7	58.0	50.5	15.8	14.6	21.7	25.5	27.4	27.7
Quebec	68.1	60.9	48.7	17.2	14.9	11.5	14.7	24.3	39.8
Ontario	57.6	55.3	56.3	22.1	15.6	5.5	20.3	29.0	38.2
Prairies	50.9	53.6	47.3	21.3	15.5	11.9	27.7	30.9	40.8
Manitoba	47.0	48.2	39.8	21.7	19.7	11.5	31.3	32.1	48.7
Saskatchewan	46.3	45.4	41.8	18.0	13.4	8.2	35.7	41.2	50.1
Alberta	56.1	61.1	53.6	22.8	13.9	13.7	21.1	25.0	32.7
British Columbia	55.2	59.0	54.2	18.2	9.2	9.3	26.6	31.7	36.5
Part-time employment									
Canada	30.6	33.0	28.9	32.3	34.4	29.1	30.6	31.7	33.6
Atlantic	27.8	30.7	20.3	17.9	22.1	17.4	22.4	26.4	22.7
Quebec	30.4	37.5	32.2	44.3	46.6	44.6	42.9	35.7	37.3
Ontario	31.0	30.5	29.2	26.4	33.9	24.2	27.3	33.6	36.4
Prairies	33.7	36.6	29.8	33.8	30.9	26.9	31.0	29.7	30.5
British Columbia	28.0	26.4	26.6	36.1	F	F	24.8	24.0	27.5

Source: Labour Force Survey, 1987-2003

* Except for nurse aides and orderlies in Newfoundland and Labrador 1988=100.

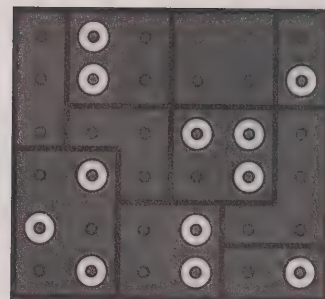
Voluntary part-time employment, unionization rate, and hourly wage rate by province

	Registered nurses		Licensed practical nurses		Nurse aides and orderlies	
	1997	2003	1997	2003	1997	2003
Voluntary part-time employment	%					
Canada	66.6	81.5	55.3	63.6	49.2	53.9
Atlantic	69.5	85.1	58.8	53.3	41.7	46.9
Quebec	58.3	85.0	38.7	62.1	47.1	59.1
Ontario	62.7	76.7	54.4	F	47.6	48.5
Prairies	76.5	86.7	72.1	67.9	57.5	64.2
British Columbia	76.3	81.0	69.6	F	48.6	44.8
Unionization rate						
Canada	81.5	82.7	82.9	85.2	66.3	68.8
Atlantic	84.0	88.7	82.1	84.7	48.4	51.4
Newfoundland and Labrador	93.9	89.8	95.5	95.7	F	28.1
Prince Edward Island	90.9	85.7	66.7	80.0	57.1	50.0
Nova Scotia	76.6	86.7	74.3	75.0	50.0	68.9
New Brunswick	85.3	90.5	80.0	83.3	57.1	42.1
Quebec	89.7	89.1	92.1	91.9	76.0	70.4
Ontario	68.2	73.7	71.2	74.5	56.1	62.0
Prairies	86.9	89.0	87.0	84.6	69.0	76.3
Manitoba	89.0	91.4	84.2	96.3	74.7	82.1
Saskatchewan	90.6	88.4	90.5	93.8	80.3	82.7
Alberta	83.8	88.4	86.2	78.7	58.4	67.1
British Columbia	90.4	85.7	93.7	88.7	82.3	85.1
Hourly wage rate*	\$					
Canada	23.97	26.13	19.00	18.89	14.44	14.60
Atlantic	21.41	23.79	14.91	16.09	11.26	11.61
Newfoundland and Labrador	20.57	24.69	14.23	16.99	8.74	9.99
Prince Edward Island	F	F	F	F	F	F
Nova Scotia	20.91	23.82	14.34	15.95	11.03	12.28
New Brunswick	22.45	22.96	16.82	15.44	12.78	11.53
Quebec	22.97	24.66	19.97	18.68	14.59	13.90
Ontario	24.78	26.34	19.37	20.67	14.61	14.71
Prairies	23.26	26.80	17.53	17.71	12.76	13.53
Manitoba	22.86	24.03	17.12	18.38	12.39	12.47
Saskatchewan	22.55	25.66	16.78	17.47	13.55	14.14
Alberta	23.76	28.24	18.00	17.48	12.61	13.93
British Columbia	26.65	29.17	22.29	23.00	18.53	19.77

Source: Labour Force Survey, 1997 and 2003

* 2003 constant dollars

Statistics Canada Survey Methods and Practices



◆ Statistics Canada has published a guide to survey planning, design and implementation entitled ***Survey Methods and Practices***. It is a practical guide to common survey taking situations and designs. It explains basic survey concepts and how to build efficient and high quality surveys. The primary purpose of the manual will be to serve as a basic tool for Statistics Canada's Survey Skills Development Course. It will also serve as a set of guidelines and reference document for planning, conducting or managing a survey. It will complement formal university training in statistics or related fields.

◆ Ordering information

This product, Catalogue no. 12-587-XPE, is published occasionally as a standard printed publication at a price of CDN \$100.00. The following additional shipping charges apply for delivery outside Canada:

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◆ Specifically, this book explains: how to formulate survey objectives and design a questionnaire; what to consider when designing a survey (choosing between a sample or a census, defining the survey population, which survey frame to use, possible sources of survey error), how to determine the sample size, allocate the sample across strata and select the sample; data analysis, including the appropriate use of survey data and methods of point and variance estimation; data dissemination and disclosure control; the use of administrative data particularly during the design phase and at estimation; how to choose between different collection methods (self-enumeration, personal interview or telephone interview; computer-assisted versus paper based questionnaires) and how to organise and conduct data collection operations; data processing (all data handling activities between collection and estimation) along with methods of quality control and quality assurance to minimise and control errors during various survey steps; and how to plan and manage a survey. This publication includes a fictitious survey designed to illustrate the steps in the development of a general household survey, according to the methods and principles presented in the corresponding chapters of the book.

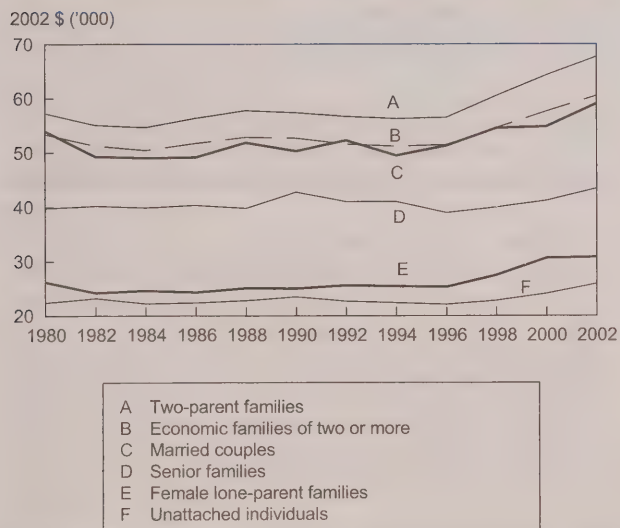
2002 income: An overview

Ginette Gervais and Renée Béland

After five consecutive years of growth, after-tax income levelled off in 2002

After five consecutive years of growth, the after-tax income of families remained virtually unchanged between 2001 and 2002. After adjusting for inflation, the average after-tax income of families with two or more people stood at \$60,500 in 2002, compared with \$60,300 in 2001. This lack of growth was in contrast to average annual increases of 3.2% between 1996 and 2001.

Average after-tax income by family type



Sources: Survey of Consumer Finances, 1980 to 1995;
Survey of Labour and Income Dynamics, 1996 to 2002

The authors are with the Income Statistics Division. Ginette Gervais can be reached at (613) 951-3289 or ginette.gervais@statcan.ca; Renée Béland, at (613) 951-4621 or renee.beland@statcan.ca.

Data sources and definitions

The longitudinal **Survey of Labour and Income Dynamics** began in 1993. The **Survey of Consumer Finances** was an annual supplement to the Labour Force Survey.

Market income (income before taxes and transfers): total earnings (from paid employment or net self-employment), investment income, private pension income, and 'other income.' It excludes government transfers.

Government transfers: direct payments to individuals and families by governments: Old Age Security, Guaranteed Income Supplement, Spouse's Allowance, C/QPP, child tax benefits, Employment Insurance, workers' compensation, GST/HST credits, provincial/territorial refundable tax credits, social assistance payments, and other government payments.

Total income: income from all sources before federal and provincial taxes.

After-tax income: total income minus income taxes.

Economic family: two or more persons living together and related by blood, marriage, common law, or adoption.

Low-income cut-off: the level below which a family may be in straitened circumstances because it spends at least 20 percentage points more of its income on necessities (food, shelter and clothing) than the average family of similar size. Cut-offs are defined for seven family and five community sizes.

Low-income rate: proportion of persons or families below the low-income cut-off.

Family income is correlated with economic conditions. After reaching a peak at \$53,900 in 1989, average family income declined through the recession of the early 1990s, staying at less than \$52,000 until 1996. After that, it rebounded in step with the recovering economy.

Average after-tax income for unattached individuals in 2002 stood at \$25,900, up 2% from 2001 and more than 17% from 1996.

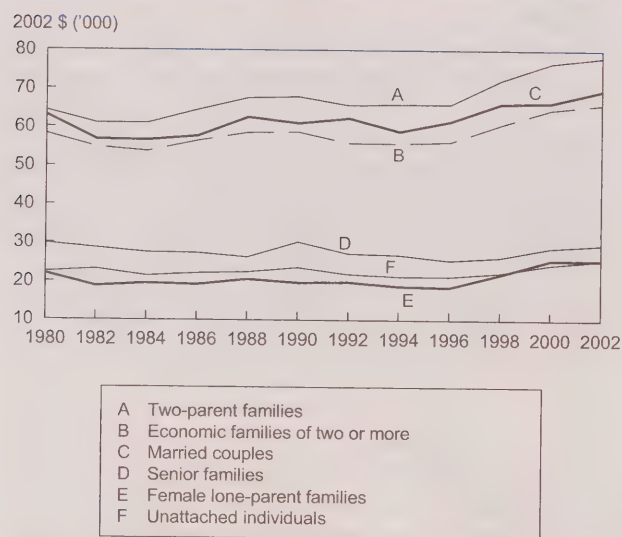
The three main components of after-tax income remained relatively stable in 2002

The minuscule growth of after-tax income between 2001 and 2002 was due to the lack of significant change in any of its three components—market income, government transfers and personal income taxes.

Market income—wages and salaries, net self-employment earnings, and income from investments and pensions—represents the lion's share of family income, particularly for non-elderly families. Whereas market income increased an average of 2.7% annually between 1996 and 2001, it decreased marginally in 2002 to stand at \$65,900 for families of two or more.

Government transfers cover a range of programs, including Employment Insurance (EI), Old Age Security, and child tax benefits. Like market income, government transfers were virtually unchanged between 2001 and 2002. Transfers to families of two or more averaged \$7,300 in 2002, down from their 1996 level of \$7,900.

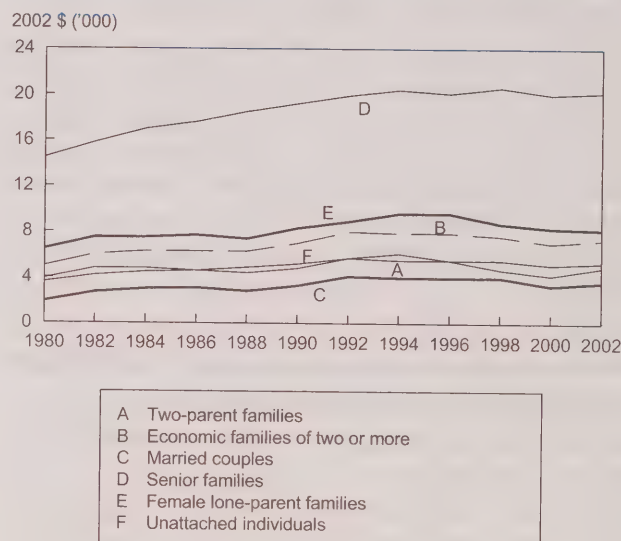
Average market income by family type



Sources: Survey of Consumer Finances, 1980 to 1995;
Survey of Labour and Income Dynamics, 1996 to 2002

The number of families receiving Employment Insurance benefits increased by 8.4% in 2002, following an 11.2% increase in 2001. Average EI benefits climbed from \$5,500 to \$5,900, mainly because of program changes that expanded parental benefits.

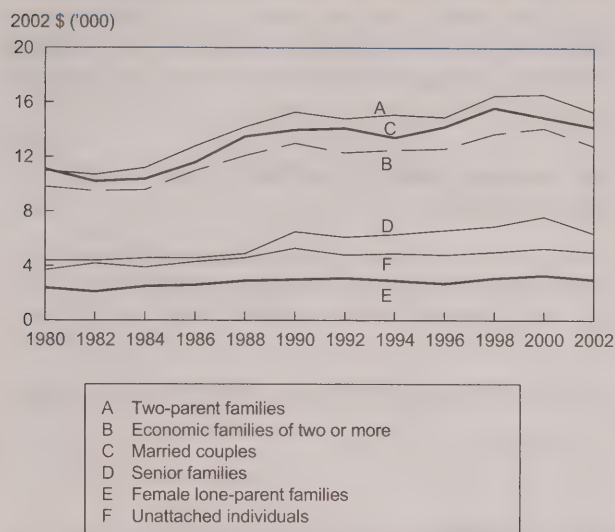
Government transfers by family type



Sources: Survey of Consumer Finances, 1980 to 1995;
Survey of Labour and Income Dynamics, 1996 to 2002

Families of two or more paid an average of \$12,800 in personal income taxes in 2002, about \$300 less than in 2001 after adjusting for inflation. This decline of about 2.3% came on the heels of a 7.1% decrease in 2001. These two consecutive decreases resulted from modifications to federal and provincial income tax, which included higher exemptions and income threshold levels as well as cuts in tax rates. The implicit tax rate for families was 17.4% in 2002, down from 17.8% in 2001.

Average income tax by family type



Sources: Survey of Consumer Finances, 1980 to 1995;
Survey of Labour and Income Dynamics, 1996 to 2002

Average market income among persons living alone in 2002 stood at \$25,600, only 1.6% more than in 2001 but 20.2% more than in 1996. On average, they received \$5,300 in transfers and paid \$5,000 in income taxes in 2002. Their average transfers were down 3.6% from 1996, while average income taxes paid were up 4.2%.

The low-income rate among families of two people or more rose slightly in 2002

Low-income cut-offs are based on family size and community size. In 2002, a family of four living in a city of 500,000 or more would be considered in low income if their total after-tax income was below \$30,576. For the same family living in a rural area, the cut-off was \$20,047.

After five consecutive years of decline, reflecting strong economic performance, a lowering of income-tax rates, and a rise in after-tax income, the proportion of families living in low income rose slightly in 2002 to 7.0%, or an estimated 605,000 families. Despite this slight increase, the rate remained well below the 10.7% in 1996 (870,000 families).

Despite the change in the proportion of low-income families, their financial situation did not really change over the six years. In 2002, they would have needed, on average, \$6,900 more in after-tax income to reach the low-income cut-off.

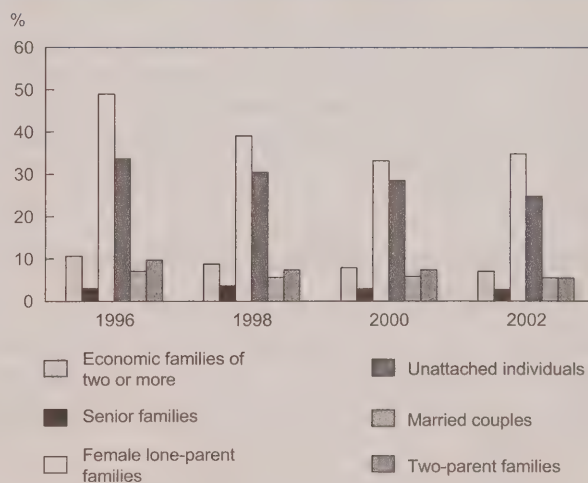
Among people living alone, 25% were living in low income in 2002, down from 34% in 1996 and 26% in 2001. These people would have needed \$5,200 more in after-tax income, on average, to reach the low-income cut-off in 2002.

Income inequality among families remained stable

One measure of income inequality is the ratio of average market income received by the 20% of families with the highest incomes compared with the 20% of families with the lowest incomes.

In 2002, this ratio was about 11.7 to 1, which means that families in the top quintile received \$11.70 in market income for every dollar received by families in the lowest quintile.

Low-income rate by family type



Sources: Survey of Consumer Finances, 1980 to 1995;
Survey of Labour and Income Dynamics, 1996 to 2002

However, taxes and transfers moderated the differences between quintiles. In 2002, after taxes and transfers, the one-fifth of families with the highest incomes received \$5.20 for every dollar received by the one-fifth of families with the lowest incomes. This ratio remained stable at about 4.8 to 1 for several years up to 1995. It then rose in 1996 and 1997 to 5.3, subsequently fluctuating between 5.2 and 5.3.

After-tax income down among female lone parents

In contrast to average income for other types of families, income for female lone-parent families was down in 2002. On average, the after-tax income for the estimated 500,000 female lone-parent families declined from \$32,500 in 2001 to \$30,800 in 2002, mainly because of a drop in their average market income from \$27,300 to \$25,600.

However, over a longer term, income increases among these families were among the highest between 1996 and 2002, due in large part to an upsurge in the number of female lone parents recording employment gains.

As a result, the annual average rate of increase in market income for female lone-parent families was 5.5% between 1996 and 2002, one of the largest increases among all family types. Consequently, the 2002 after-tax income of female lone parents was much higher than in 1996, when it was \$25,300.

In 2002, some 500,000 female lone-parent families, or 34.8%, were living in low income (after tax), up from 30.1% in 2001. This was the first increase in the low-income rate for these families since 1996 when it peaked at 49.0%.

Low-income rate among children down for sixth straight year

Although the change is not significant, based on after-tax income, the low-income rate among children under the age of 18 declined for the sixth consecutive year in 2002.

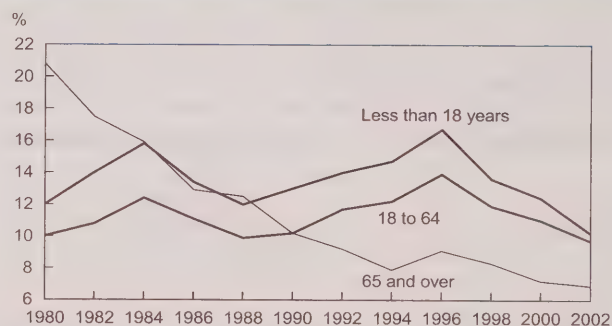
Based on family after-tax income, an estimated 702,000 children, or 10.2% of the total, were living in low-income families, down from 786,000 in 2001 (10.4%).

The proportion of children living in low-income families has declined steadily since 1996, when it peaked at 16.7%. The decline follows an overall improvement in the economy during the late 1990s.

Continuous growth of after-tax income for senior families

Among senior families (major income recipient aged 65 or older), after-tax income was estimated at \$43,400 in 2002, up from \$39,000 in 1996.

Low-income rate by age



Sources: Survey of Consumer Finances, 1980 to 1995;
Survey of Labour and Income Dynamics, 1996 to 2002

Net after-tax income among senior families grew steadily between 1996 and 2002, primarily as a result of an increase in their market income. During this time, after-tax income for senior families increased 11%, compared with 18% for younger families.

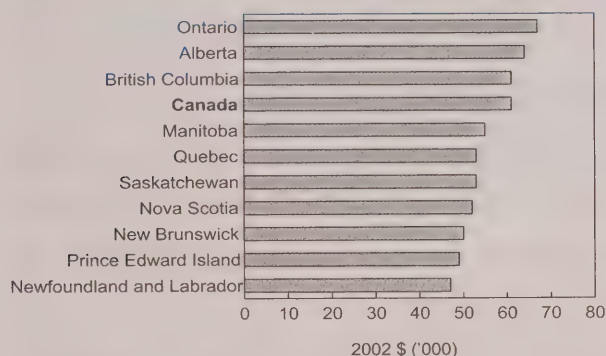
In 2002, senior families received an average of \$20,200 in government transfers, accounting for 41% of their total income before taxes.

Provinces: After-tax income remained stable in most cases

Families of two or more recorded at least marginal increases in after-tax income in most provinces in 2002, with a few notable exceptions. In Alberta, after-tax income declined from \$65,600 in 2001 to \$64,300 in 2002. On the other hand, the proportion of low-income families in Alberta also fell, from 5.9% to 4.8%. The biggest gain was in Nova Scotia, where after-tax income for families of two or more rose from \$49,800 to \$51,500.

In the provinces, average market income among families did not change significantly between 2001 and 2002. However, increases were recorded between 1996 and 2002 in every province, ranging from 6.9% in Prince Edward Island to as high as 22.8% in Nova Scotia.

Average after-tax family income by province



Source: Survey of Labour and Income Dynamics, 2002

Average income tax paid in 2002 by families decreased by 2% or more in six provinces. The greatest change was in Nova Scotia, where it was up approximately 12%, or \$1,200, over the \$9,900 paid in 2001.

This increase may be partly due to Nova Scotia's tax system remaining virtually unchanged, whereas average market income among families—the bulk of which is taxable—increased by an average 6.0%. Nova Scotia has not increased its basic personal exemption or the exemption for eligible spouses or dependants, nor has it implemented statutory increases in income tax rates over 2001 rates.

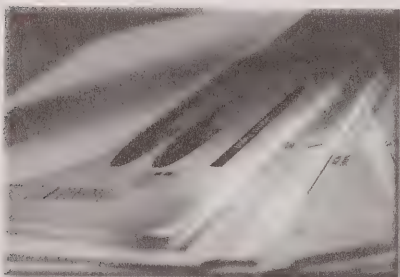
In Manitoba, meanwhile, a relatively significant (5.7%) decrease in average income tax paid by families in 2002 may be attributed to changes to that province's tax system, including higher exemption amounts, a statutory decrease in the income tax rate for the second bracket (from 16.2% to 15.4%), and an increase in the income threshold for the third bracket (from \$61,089 to \$65,000). Even though Manitoba saw an increase in market income, changes to the tax system appear to have largely offset any effects the increase may have had.

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In the works

Some of the topics in upcoming issues

■ Landing a job: the role of foreign qualifications

How do foreign qualifications affect one's chances of getting a job? Six months after arriving, how many newcomers are employed in the same occupational field as they were prior to immigrating? Does country of education play a role?

■ The rising profile of women in academia

A look at growth between 1990 and 2001 in the number of women teaching full time at Canadian universities. Changes in their representation by various characteristics such as rank, tenured status, field of specialization, and age structure are examined. The sustainability of their growing presence is also addressed.

■ Wage gap between temporary and permanent workers

This study presents a profile of temporary workers, measuring the wage gap between them and permanent workers, and examining their economic vulnerability. To what degree does the wage gap persist when factors such as family status and supplementary earnings of a spouse are taken into account?

■ RRSP withdrawals

RRSP savings are not always used for retirement income. Understanding who needs or opts to withdraw funds from their RRSP can help identify groups that may not be financially prepared for retirement. The role of major life events such as separation or divorce, death of a spouse, or job loss is also examined.

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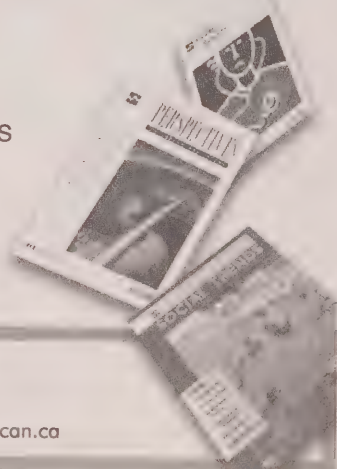
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■ *The Canadian Labour Market at a Glance*

The Canadian Labour Market at a Glance is a new online publication that provides an overview of a host of topics, such as labour market trends, employment by industry, trends in workplace training, reasons workers select part-time jobs, absenteeism rates, wages and income, international comparisons, labour markets in provinces and census metropolitan areas, and the labour market for immigrants and Aboriginal people.

For more information, see the November 17, 2004 issue of *The Daily* on the Statistics Canada's Web site (www.statcan.ca).

■ *Savers, investors and investment income*

The number of Canadians reporting investment income fell for the third straight year in 2003, although not nearly as much as in the previous two years. The amount of investment income received in 2003 was down slightly from 2002.

Nearly 7.4 million people reported just over \$30.1 billion of income from investments, according to income tax returns filed in the spring of 2004.

Investment income recipients are either savers or investors. Investors may have also received interest income.

The number of recipients slipped 1.3%, well below the rate of decline of about 6% in each of the two previous years. The number fell in all provinces and territories except Alberta (+1.1%) and British Columbia (+0.8%).

Investment income received edged down 0.6% in 2003, in sharp contrast to the 12.2% decline in 2002.

The proportion of filers reporting investment income continued to decline in all provinces and territories. In 2003, 33% of taxfilers reported investment income, down from 34% in 2002 and 39% in 2000.

Median investment income remained unchanged at \$500 for the third year in a row. Only in Newfoundland and Labrador was there a gain in median investment income. Median investment income remained the same in nine provinces and territories, while it declined in Nova Scotia, Quebec and Nunavut.

Interest income fell by 7.8% to \$7.3 billion in 2003. Again, however, this decline was not nearly as steep as in 2002 when it fell 25.5%.

For more information, see the November 3, 2004 issue of *The Daily* on the Statistics Canada's Web site (www.statcan.ca).

■ *Registered retirement savings plan contributions*

Canadians increased their contributions to registered retirement savings plans (RRSPs) in the 2003 tax year for the first time in three years. The number of contributors declined slightly.

In total, 5,948,000 taxfilers contributed nearly \$27.6 billion. Contributions rose 1.8% from 2002, while the number of contributors was down 0.7%.

The turnabout in contributions followed two years of declines and may have been the result of an increase in the maximum annual RRSP contribution limits (\$14,500 in 2003, up from \$13,500 in 2002).

Women accounted for 38% of total RRSP contributions, down from 39% in 2002. Their median contribution remained virtually unchanged at \$2,100.

To be eligible to contribute to an RRSP, a taxfiler must have either new room as a result of qualifying income from the previous year (generally employment income) or unused room from earlier years. In the 2003 tax

year, 78% of those who filed taxes had room from an earlier year. Of these, about 34% actually made contributions. However, the total contributions of \$27.6 billion represented only about 9% of their total room available.

Contributions rose in most provinces and territories, except Nova Scotia, Saskatchewan, Prince Edward Island and Nunavut. The number of contributors fell slightly except in the Northwest Territories and Newfoundland and Labrador.

Contributors in the Northwest Territories recorded the largest percentage increase in contributions at 5.0%, followed by those in New Brunswick (4.3%) and Newfoundland and Labrador (3.1%).

Nunavut continued to record the highest median contribution (\$4,300) just as it has since coming into existence in 1999. Newfoundland and Labrador had the largest shift in median contribution. In 2003, the province's median contribution was \$2,200, up from \$2,000 in 2002.

For more information, see the November 2, 2004 issue of *The Daily* on the Statistics Canada's Web site (www.statcan.ca).

■ ***Renewing Canada's manufacturing economy***

The driving force behind job renewal in manufacturing in Canada has not been the decision of incumbent firms to expand employment within existing plants, or to establish new plants. Rather, job renewal has resulted from the decision of new firms to establish new manufacturing plants.

Renewal occurs when old plants are supplanted by new plants. It also occurs when some plants decline and others grow. In both cases, resources and production are being shifted from less to more productive plants.

Between 1973 and 1996, employment in manufacturing grew from 1.66 million to 1.70 million, a 2% gain. Although aggregate employment levels changed little, manufacturers experienced high rates of job loss and renewal during this period.

Just over one million factory jobs that existed in 1973 were eliminated by 1996. However, by 1996, these positions had been replaced by new jobs. These new jobs effectively renewed two-thirds of the employment.

Of the factory jobs present in 1996 and new since 1973, just over 55% were created by new businesses.

Jobs created in new plants built by incumbent firms accounted for about 19% of new jobs, while new employment from expanding existing plants represented about one out of every four new jobs.

For more information, see the October 21, 2004 issue of *The Daily* on the Statistics Canada's Web site (www.statcan.ca).

■ ***Earnings of couples with high and low levels of education***

The gap in earnings between couples who are highly educated and couples with much lower levels of schooling widened considerably during the past two decades.

Couples consisting of two university graduates saw their employment income rise substantially. On the other hand, those with high school education or less struggled to maintain their standard of living.

Canadian-born couples with both spouses having a high school diploma or less had annual earnings that were for the most part no higher than those of their counterparts in 1980.

In contrast, Canadian-born couples where both partners had a university degree earned 14% to 22% more than their counterparts two decades earlier. In 2000, these couples accounted for 10% of all Canadian-born couples, more than twice the rate of 4% in 1980.

The relatively poor earnings performance of less educated couples was associated with substantial declines in earnings among low-educated males.

Even though Canadian-born wives earned more in 2000 than their counterparts in 1980, the growth in their employment income did not always prevent a drop in the earnings of less educated couples.

Furthermore, the earnings of women generally rose more among highly educated than among less educated couples. And, earnings of highly educated males evolved more favourably than those of low-educated men. Both patterns helped to widen the gap between highly educated and less educated couples.

Regardless of age, Canadian-born husbands with low levels of education experienced substantial declines in earnings between 1980 and 2000.

Regardless of their age and level of education, Canadian-born wives received higher annual earnings in 2000 than their counterparts in 1980. However, their growing earnings did not always offset the earning declines experienced by their low-educated partners.

In general, highly educated wives increased their earnings more than their less educated counterparts. Among couples consisting of two university graduates, the annual earnings of women rose between \$8,400 and \$23,000 during the 20-year period. In contrast, the corresponding increase was at most \$5,400 among couples in which both spouses had no high school diploma.

For more information, see the October 13, 2004 issue of *The Daily* on the Statistics Canada's Web site (www.statcan.ca).

■ *Relative wage patterns among the highly educated in a knowledge-based economy*

Over the last two decades, university graduates employed in high-knowledge industries saw their ranks grow much more rapidly than those in other industries. However, their wages did not generally increase faster.

Between 1980 and 2000, the number of university graduates employed in high-knowledge industries more than tripled. In contrast, employment of university graduates in low- and medium-knowledge industries more than doubled. For every 100 university graduates employed in these two industries in 1980, there were roughly 270 university graduates in 2000.

Despite the strong employment growth in high knowledge industries, university graduates in this sector did not see, in general, their wages rise faster than their counterparts in other sectors.

For instance, among female university graduates aged 25 to 35 who had comparable experience, median wages of those employed in high-knowledge industries rose by roughly 20% between 1980 and 2000. In contrast, wages increased by at least 30% in low- and medium-knowledge industries.

In low-, medium- and high-knowledge industries, median wages of young male university graduates evolved in a similar fashion, changing little between 1980 and 2000.

Among older workers (those aged 36 to 55), median wages of university graduates and high school graduates also followed similar paths in all three private-sector industries.

For more information, see the September 29, 2004 issue of *The Daily* on the Statistics Canada's Web site (www.statcan.ca).

■ *Employer-sponsored pension plans*

More and more women in the paid workforce are being covered by registered pension plans (RPPs) in both the public and private sectors. In fact, women accounted for the net increase in the total membership of these 14,376 plans during 2002.

The number of men belonging to an RPP edged down 0.1% to 2.96 million, while the number of women increased 2.4% to just under 2.57 million.

Men accounted for 57.7% of RPP memberships at the end of 1992, and women 42.3%. By the end of 2002, the proportion of men had declined to 53.6%, while for women it had increased to 46.4%.

However, this growth did not keep pace with employment, which increased by about 4% in 2002 in the wake of a robust economy.

The number of women belonging to RPPs has grown steadily over the last five years. During 2002, nearly two-thirds of the growth in RPP membership among women occurred in the public sector, where the number of women increased 2.7%, compared with just 1.9% in the private sector.

Women made significant gains in public administration; educational and health care services; retail trade; and finance, insurance and real estate.

The trend in male membership was different. The number of men belonging to an RPP was down 0.1% between 2001 and 2002, the second straight annual drop. This slight drop occurred entirely in the private sector, whereas in the public sector, the number of males covered rose slightly.

The largest increases in RPP male members occurred in construction; community, business and personal services; finance, insurance and real estate; and educational and health care services.

Both employee and employer contributions jumped substantially. At the end of 2002, total annual contributions stood at \$23.5 billion, up 14% from 2001 or nearly \$3.1 billion higher (in 2002 constant dollars). This was the largest annual increase since 1991.

The largest increase occurred in contributions by employers. Between 2001 and 2002, employer contributions rose 18%, employee contributions only 5%. In fact, many employers had to make special payments (for example, for actuarial deficiencies or unfunded liabilities) in addition to their normal contributions in 2002.

For more information, see the September 22, 2004 issue of *The Daily* on the Statistics Canada's Web site (www.statcan.ca).

■ *Employer pension plans (trusteed pension funds)*

Trusteed pension funds closed out the first quarter of 2004 with assets much higher than just 12 months earlier when they had hit a four-year low.

As of March 31, 2004, trusteed pension funds had assets worth \$652.9 billion, 22.9% more than the \$531.2 billion at the same time in 2003, which was the lowest level since 1999.

Assets rose 4.6% in the first quarter compared with the last quarter of 2003, the fourth quarterly gain in a row.

Pension funds are heavily invested in stocks and equity investment funds. As a result, changes in stock prices on Canadian and other stock exchanges have a direct impact on the value of pension fund assets.

The Standard and Poor's/Toronto Stock Exchange Composite Index (TSX) measured 8,586 at the end of the first quarter, up 35% over March 2003 and a 4.4% gain over the three-month period ending December 2003.

At the end of the first quarter of 2004, stocks and equity investment funds accounted for 36% of pension fund assets. The remaining assets consisted of bonds

(36%), real estate (5%), short term (5%), mortgages (2%), and miscellaneous (16%)—mostly foreign equity investment funds.

Pension funds had revenues of \$18.2 billion and expenditures of \$14.2 billion between January and March, for a cash flow of \$4.0 billion. This was down considerably from the \$14.5 billion cash flow of the previous quarter, but it was the fourth positive cash flow in a row.

Cash flow varies considerably from quarter to quarter, partially due to accounting practices in the industry, but primarily because of profits or losses from buying and selling stocks.

Profits hit \$5.9 billion, which was very high compared with most quarters during the last three years. However, losses on stock sales were also very high at \$5.7 billion.

As a result, most of the funds' positive cash flow came from contributions and other forms of investment income, such as interest and dividends. Almost all the losses were limited to a few very large funds.

Employer contributions, which have been on the rise since early 2002, were high at \$4.7 billion, but well below the record \$6.8 billion in the fourth quarter 2003. Employer contributions typically fall in the first quarter compared with the previous quarter.

About 4.5 million of the 5.5 million Canadian workers belonging to employer pension plans are members of trusteed plans. The remainder are covered by the consolidated revenue funds of the federal and provincial governments, or by insurance company contracts or Government of Canada annuities.

For more information, see the September 22, 2004 issue of *The Daily* on the Statistics Canada's Web site (www.statcan.ca).

■ *The effect of literacy on immigrant earnings*

The average literacy and numeracy of immigrants are significantly below non-immigrants with equivalent educational credentials and other observable characteristics. This may partly explain the decline in the relative labour market success of immigrants to Canada over the past decade.

Also, no evidence shows that immigrants receive a lower return to the types of skills measured in literacy tests than otherwise equivalent Canadian-born workers. In other words, Canadian labour markets appear to reward the literacy and numeracy of immigrants in exactly the same way that they do non-immigrants. A 100-point increase in literacy score yielded the same return to both groups.

The lower wage return to a university education acquired by immigrants before migration disappears when their literacy skill level is taken into account.

If immigrants had the same average literacy scores as non-immigrants, the earnings differential would narrow by 20%. This change would eliminate just over one-half of the earnings disadvantage among university-educated immigrant workers.

Canadian employers place little value on foreign work experience, with highly educated immigrants realizing markedly lower returns for foreign experience.

In the case of less educated immigrants, the impact of raising immigrant literacy levels to those of non-immigrants would be slightly larger than if wage returns to foreign experience for less educated workers were increased to non-immigrant levels.

In the case of educated immigrants, the effect of raising immigrant literacy levels to those of non-immigrants is only about one-quarter that if wage returns to foreign experience were increased to non-immigrant levels.

Thus, while literacy deficiencies among immigrants appear to have an important influence on differentials in earnings, they do not explain much of the impact of low returns to foreign experience for the highly educated.

For more information, see the September 7, 2004 issue of *The Daily* on the Statistics Canada's Web site (www.statcan.ca).

Studies from other organizations

■ *The rural–urban women's wage gap*

This study analyzes the female rural–urban wage gap in Canada using the longitudinal Survey of Labour and Income Dynamics from 1993 to 1996. It estimates a two-step wage equation accounting for unobserved

heterogeneity and sample selection. The results indicate that a statistically and economically significant rural–urban wage gap remains after controlling for observed and unobserved characteristics. The results also suggest this difference is not simply induced by immobility between rural and urban markets. Rather, consistent with the effect of thinner rural labour markets, rural–urban differences in the influence of a number of explanatory variables are significant. See “Panel estimates of the Canadian rural/urban women's wage gap” by Esperanza Vera-Toscano, Euan Phimister and Alfons Weersink, *American Journal of Agricultural Economics* 86, no. 4 (November 2004): 1138-1151.

■ *Immigration, race, labour and unionization*

In Canada, most racial minorities have lower rates of unionization than do members of the majority workforce. The Survey of Labour and Income Dynamics shows that racial minority immigrants assimilate into unionization over time. However, unionization reduces net minority wage disadvantages only slightly. According to this study, union race relations policies should place more emphasis on collective bargaining as well as on unionization. See “Immigration, race, and labor: Unionization and wages in the Canadian labor market” by Jeffery Reitz and Anil Verma, *Industrial Relations* 43, no. 4 (October 2004): 835-854.

■ *Family income and child outcomes*

A positive relationship between income and child outcomes has been observed in numerous countries. A key question is the extent to which this represents a causal relationship as opposed to unobserved heterogeneity. This study uses the National Longitudinal Survey of Children and Youth to implement a series of empirical strategies for estimating the existence and size of the effect of income on three measures of cognition. The results indicate that the effect of income on these outcomes may well be positive, but that it is likely to be smaller than conventional estimates. See “Family income and child outcomes in Canada” by Martin D. Dooley and Jennifer M. Stewart, *Canadian Journal of Economics* 37, no. 4 (November 2004): 898-917.

■ ***The disintegrating Canadian labour market?***

Real wages for three occupations in 13 Canadian cities from 1901 to 1950 suggest Canada had a national labour market at least until 1950. However, real wages for 10 Canadian cities from 1971 to 2000 show little evidence favouring integration of Canada's regional labour markets. The apparent lack of labour market integration reflects a weakness of an approach that assumes markets are in equilibrium. Unemployment rates after 1970 suggest that some regional markets may be characterized by excess labour supply. Relative provincial unemployment rates yield evidence consistent with local labour force adjustment to changing labour market conditions. See "The disintegrating Canadian labour market? The extent of the market then and now" by J.C. Herbert Emery and Patrick Coe, *Canadian Journal of Economics* 37, no. 4 (November 2004): 879-897.

■ ***Small North American producers give ground in the 1990s***

This paper examines the importance of small producers in the Canadian and U.S. manufacturing sectors from the early 1970s to the late 1990s to investigate whether a common North American trend was evident in changes in plant size. Small plants in both countries increased their share of employment up to the 1990s, but their share remained stable in the 1990s. They also increased their share of output up to the 1990s, but then saw it decline. Over the entire time period, their share of output increased less than their share of employment, and therefore their relative labour productivity fell. The similarity in trends in the two countries suggests similarities such as the technological environment rather than in country-specific factors like unionization or trade intensities. See "Small North American producers give ground in the 1990s" by John R. Baldwin, Ron S. Jarmin and Jianmin Tang, *Small Business Economics* 23, no. 4 (November 2004): 349-361.

■ ***Immigration, skills and the labour market: International evidence***

Using the 1994-1998 International Adult Literacy Survey, this paper compares cognitive skills and employment of immigrants in Canada, New Zealand, Switzerland, and the United States. Immigrants had

lower cognitive test scores than natives in each country, with the largest gaps in the U.S., and small gaps in Canada and New Zealand. Male immigrants in the U.S. were no less likely to work than natives, while in the other countries, male immigrants were less likely to be employed. Female immigrants were less likely in each country to be employed than natives, with an especially large gap for the U.S. See "Immigration, skills and the labor market: International evidence" by Lawrence M. Kahn, *Journal of Population Economics* 17, no. 3 (August 2004): 501-534.

■ ***A decentralized labour market: The case of Ontario***

This study documents the application of pro-active pay equity legislation to the private sector of Ontario in the early 1990s. It reports substantial lapses in compliance among smaller firms, where the majority of men and women work. It also found that the pay equity law had no effect on aggregate wages in female jobs or on the male-female wage gap. This experience provides unique perspectives on the tensions between the workings of a decentralized labour market and the principles of comparable worth, and on the obstacles to its extension to the private sector. See "Comparable worth in a decentralized labour market: the case of Ontario" by Michael Baker and Nicole Fortin, *Canadian Journal of Economics* 37, no. 4 (November 2004): 850-878.

■ ***The dynamics of living in low-income neighbourhoods***

This paper uses longitudinal tax data to explore several undocumented aspects of residential spells in low-income neighbourhoods. Although new spells generally last much longer than spells in the low-income state, both types of spells exhibit negative duration dependence. While factors such as family type, age, and local unemployment rates play a considerable role in the length of both types of spells, the magnitude of these roles is quite different. These differences suggest that in contrast to the low-income state, the dynamics of low-income neighbourhood spells are largely shaped by non-economic factors. See "When do they leave? The dynamics of living in low-income neighbourhoods" by Marc Frenette, Garnett Picot and Roger Sceviour, *Journal of Urban Economics* 56, no. 3 (November 2004): 484-504.

■ **Trade barriers and wage inequality in a North–South model with technology-driven intra-industry trade**

Reductions in trade barriers have been suggested as a possible cause of the growing wage inequality between skilled and unskilled labour in developed countries. Wage inequality, however, has also increased in some developing countries. Coupled with this wage inequality has been a rise in the relative employment of skilled workers. These facts are inconsistent with Stolper–Samuelson predictions concerning trade liberalization that arise in a standard two-country Heckscher–Ohlin–Samuelson (HOS) trade model. This paper presents a modified HOS model where Ricardian intra-industry trade in the skill-intensive high-tech sector is driven by international differences in adoption lags incorporating new technology. A reduction in trade barriers within the high-tech sector may lead to an increase in wage inequality in both developed and developing countries, or just one country, with a concurrent increase in the skill composition of the labour force. See “Trade barriers and wage inequality in a North–South model with technology-driven intra-industry trade” by Eugene Beaulieu, Michael Benarroch and James Gaisford, *Journal of Development Economics* 75, no. 1 (October 2004): 113–136.

■ **Evolution of the gender earnings gap among Canadian university graduates**

This paper reports on the results of an empirical analysis of the gender earnings gap among recent Canadian Bachelor's level university graduates. The overall gap two years after leaving university narrowed significantly across successive cohorts of graduates, but widened significantly from two to five years out for all groups. Differences in the explanatory variables account for between 40% and essentially the entire gap across the different periods, this portion rising from two to five years out and across cohorts. By the final group, all of the gap is thus ‘explained’ at the two-year point in time, and most of it is explained at the five-year mark, meaning that labour market returns (measured in this manner) are largely gender-neutral for the last group of graduates. Hours of work is the single most important influence, while past work experience, job characteristics, family status, and

province of residence and language have smaller and more mixed effects. See “Evolution of the gender earnings gap among Canadian university graduates” by Ross Finnie and Ted Wannell, *Applied Economics* 36, no. 17 (September 2004): 1967–1978.

■ **The long and short of the Canada-U.S. Free Trade Agreement**

The Canada-U.S. Free Trade Agreement provides a unique window onto the effects of a reciprocal trade agreement on an industrialized economy (Canada). For industries that experienced the deepest Canadian tariff cuts, the contraction of low-productivity plants reduced employment by 12% while raising industry-level labour productivity by 15%. For industries that experienced the largest U.S. tariff cuts, plant-level labour productivity soared by 14%. These results highlight the conflict between those who bore the short-run adjustment costs (displaced workers and struggling plants) and those who are garnering the long-run gains (consumers and efficient plants). See “The long and short of the Canada-U.S. Free Trade Agreement” by Daniel Trefler, *American Economic Review* 94, no. 4 (September 2004): 870–896.

■ **Counting heads**

The article discusses to what extent economic growth is driven by the acquisition of ‘human capital.’ Economists have failed to prove that better education and training significantly raise a country's long-term growth. Recently, though, a Canadian study made a breakthrough. It found that measuring actual skills rather than educational qualifications made human capital a strong predictor of economic growth. The study identified a clear and significant association between investments in human capital in each period and a country's subsequent growth and labour productivity. This analysis sheds light on the nature of the link between human-capital improvements and economic growth. Another finding is that raising women's literacy improves productivity more than raising men's. While this study provides only a rough measure of the human-capital effect, the strong correlation between skills and growth gives a significant boost to human-capital theory and to the view that investing in skills brings long-term economic rewards. See “Counting heads,” *The Economist*, August 28, 2004, p.70.

■ **Mandatory retirement and older worker employment**

This paper makes use of differences in the legal status of mandatory retirement in Canada across jurisdictions and over time to assess its impact on the share of older people working. The results suggest that making mandatory retirement illegal would have little effect on the size of the older workforce, and therefore such a policy alone would do little to alleviate problems associated with an aging population and the consequent decline in the share of the population employed. See "Mandatory retirement and older worker employment" by M. Shannon and D. Grierson, *Canadian Journal of Economics* 37, no. 3 (August 2004): 528-551.

■ **The better way?**

"Making a visible difference: The contribution of visible minorities to Canadian economic growth," by the Conference Board of Canada, examines the impact of visible minorities on the labour force growth, compares the wage gap between minorities and Canadians, and looks at factors that contributed to the success of Canadian companies. See "The better way?" by Audrey Hoddinott, *HR Professional* 21, no. 4 (August-September 2004): 11.

■ **Education, work and crime: A human capital approach**

This article develops a model of crime in which human capital increases the opportunity cost of crime from foregone work and expected costs associated with incarceration. Older, more intelligent, and more educated adults should commit fewer street (unskilled) crimes. White collar crimes decline less (or increase) with age and education. Predictions for age-crime and education-crime relationships receive broad empirical support in self-reported data from the National Longitudinal Survey of Youth and arrest data from the Uniform Crime Reports. The effects of education, training, and wage subsidies, as well as enforcement policies on criminal behaviour are discussed. See "Education, work, and crime: A human capital approach" by Lance Lochner, *International Economic Review* 45, no. 3 (August 2004): 811-843.

Perspectives

Key labour and income facts

Selected charts and analysis

This section presents charts and analysis featuring one or more of the following sources. For general inquiries, contact Joanne Bourdeau at (613) 951-4722; bourjoa@statcan.ca.

Administrative data

Small area and administrative data

Frequency: Annual
Contact: Customer Services
(613) 951-9720

Business surveys

Annual Survey of Manufactures

Frequency: Annual
Contact: Dissemination agent
(613) 951-9497

Annual Surveys—Service Industries

Frequency: Annual
Contact: Lucie Lussier
(613) 951-0410

Business Conditions Survey of Manufacturing Industries

Frequency: Quarterly
Contact: Claude Robillard
(613) 951-3507

Census

Census labour force characteristics

Frequency: Quinquennial
Contact: Michel Côté
(613) 951-6896

Census income statistics

Frequency: Quinquennial
Contact: John Gartley
(613) 951-6906

Employment and income surveys

Labour Force Survey

Frequency: Monthly
Contact: Marc Lévesque
(613) 951-4090

Survey of Employment, Payrolls and Hours

Frequency: Monthly
Contact: Sylvie Picard
(613) 951-4090

Employment Insurance Statistics Program

Frequency: Monthly
Contact: Sylvie Picard
(613) 951-4090

Major wage settlements

Workplace Information Directorate
(Human Resources and Skills Development Canada)
Frequency: Quarterly
Contact: (819) 997-3117
1 800 567-6866

Labour income

Frequency: Quarterly
Contact: Anna MacDonald
(613) 951-3784

Survey of Labour and Income Dynamics

Frequency: Annual
Contact: Client Services
(613) 951-7355 or
1 888 297-7355

Survey of Financial Security

Frequency: Occasional
Contact: Client Services
(613) 951-7355 or
1 888 297-7355

Survey of Household Spending

Frequency: Annual
Contact: Client Services
(613) 951-7355 or
1 888 297-7355

General social survey

Education, work and retirement

Frequency: Occasional
Contact: Client Services
(613) 951-5979

Social and community support

Frequency: Occasional
Contact: Client Services
(613) 951-5979

Time use

Frequency: Occasional
Contact: Client Services
(613) 951-5979

Pension surveys

Pension Plans in Canada Survey

Frequency: Annual
Contact: Patricia Schembari
(613) 951-9502

Quarterly Survey of Trusteed Pension Funds

Frequency: Quarterly
Contact: Bob Anderson
(613) 951-4034

Special surveys

Survey of Work Arrangements

Frequency: Occasional
Contact: Ernest B. Akyeampong
(613) 951-4624

Adult Education and Training Survey

Frequency: Occasional
Contact: Client Services
(613) 951-7355 or
1 888 297-7355

Graduate Surveys

(Postsecondary)
Frequency: Occasional
Contact: Client Services
(613) 951-7608

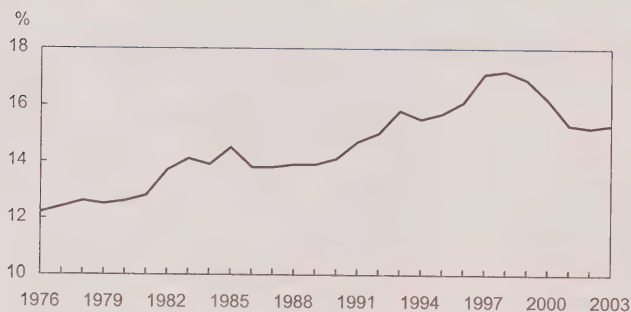
Update: Working together—self-employed couples

Self-employment has risen substantially in the last two decades and with it the number of families with one or more self-employed workers. In 1976, at least one spouse was self-employed in 21% of all dual-earner couples, but by 1998 the proportion had risen to 33%. Some 227,000 of these were self-employed couples working together in the same business—many of them

in farming (28%). Many couples prefer the flexibility of working together despite their longer combined workweek (87 hours on average in 1998).

This update examines 2003 data for changes in the incidence or characteristics of self-employed couples. Overall, the incidence of self-employed couples working together tended to correspond with overall trends in the labour force.

Self-employment



Source: Labour Force Survey

Self-employment rose throughout the 1980s and 1990s, peaking in 1998 at 17.2% of total employment. It subsequently declined to 15.3% in 2003.

Dual-earner couples by selected characteristics

The number of self-employed couples working together dropped 12% between 1998 and 2003 (from 227,000 to 200,000). However, they accounted for a slightly higher proportion of total self-employed couples (70% compared with 68%).

Couples working together were older in 2003 (average age of husband was 50; wife, 48).

Self-employed couples working together were more likely to be living in urban areas in 2003, likely a reflection of the movement away from farming.

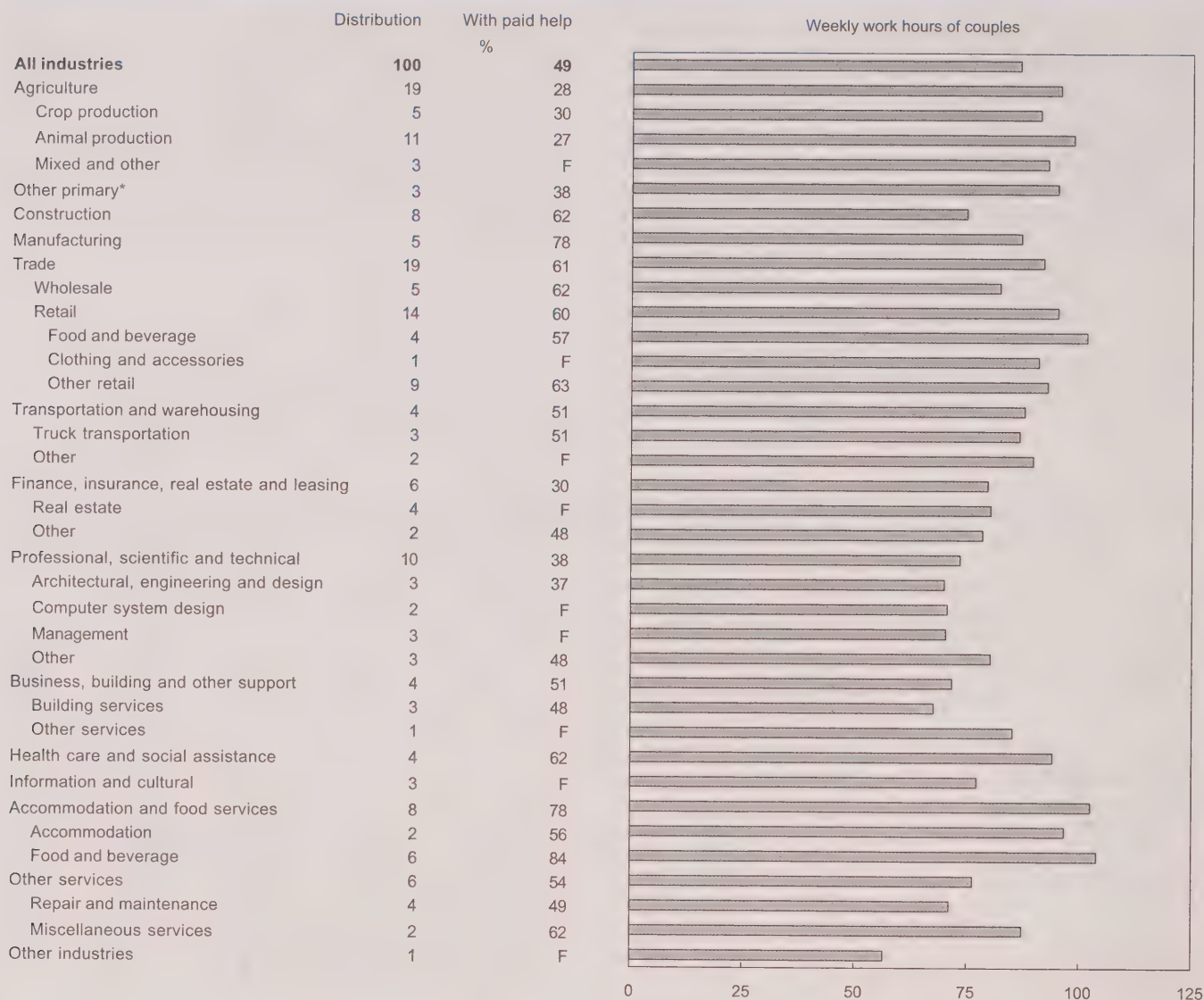
Weekly work hours dropped for husbands (from 53 to 50) but increased for wives (from 35 to 37).

Wives were less likely to be unpaid family workers in 2003 (14% in 1998 compared with 7% in 2003).

	Dual-earner couples							
	Total couples	Both employees	At least one self-employed			Both self-employed		
			Total	Husband	Wife	Total	Same business	
							No	Yes
Total	3,889	2,726	879	615	264	284	84	200
Personal characteristics								
Average age					years			
Husband	44	42	46	46	44	50	48	50
Wife	41	40	43	44	42	47	46	48
					%			
Live in urban area	83	85	79	79	81	69	76	66
Job characteristics								
Average weekly hours					hours			
Husband	42	40	44	45	40	49	46	50
Wife	34	34	33	32	33	36	33	37
Multiple jobholder					%			
Husband	4	4	6	5	7	6	8	6
Wife	5	4	7	7	7	8	12	6
Works part-time								
Husband	5	4	8	10	3	9	11	8
Wife	25	21	32	29	39	35	39	33
Unpaid family worker								
Husband	F	F	F	F	F	1	F	1
Wife	F	F	F	F	1	5	2	7
Work hours vary								
Husband	34	22	60	76	24	72	74	71
Wife	32	25	41	29	69	70	68	70

Source: Labour Force Survey, 2003

Co-owner couples in food and beverage sales and services work over 100 hours per week.



Source: Labour Force Survey, 2003

* Forestry, fishing, mining, oil and gas

Agriculture saw a large drop in self-employed couples working together in 2003 (-40%), although they still represented one-fifth of all couples working together (19%).

Similar to rates in 1998, 14% worked in retail, 8% in accommodation and food services, and 10% in professional, scientific and technical services.

Couples who co-owned a business continued to report working an average of 87 hours per week. Average hours remained relatively the same in all industries between 1998 and 2003.

Occupational distribution of husbands and wives who co-own businesses

Agricultural occupations no longer top the list for either husbands or wives who co-own a business.

In 2003, self-employed couples were more likely to be retail managers (21%, up from 13% in 1998). Also common were occupations in agriculture (19%, down from 24%), as well as sales and services (9%, up from 7% in 1998).

	%
Top jobs for husbands	100
Occupations unique to agriculture	20
Managerial	32
Trades, transport and equipment operating	13
Sales and service	12
Other	23
Top jobs for wives	100
Occupations unique to agriculture	19
Financial, secretarial, administrative or clerical	22
Managerial	25
Sales and service	12
Other	22
Top combinations in co-owned businesses	100
Both have occupations in agriculture	19
Both are retail managers	21
Both have occupations in sales and service	9
Both have occupations in trades, transport and equipment operating	5
Husband in trades, transport and equipment operating	7
Wife in financial, secretarial, administrative or clerical	
Husband in management	5
Wife in financial, secretarial, administrative or clerical	
Husband in management	2
Wife in sales and service	
Husband in agriculture	1
Wife in financial, secretarial, administrative or clerical	
Husband in sales and service	2
Wife in financial, secretarial, administrative or clerical	
Other combinations	30

Source: Labour Force Survey, 2003

Self-employed couples by industry

Fewer self-employed couples worked together in 2003 compared with 1998, probably because of a huge drop in farm couples, which reflects recent trends in the overall labour force.

Farming represented only 9% of the self-employed in 2003 compared with about 20% prior to the late 1980s. Self-employment in agriculture dropped 26% between 1998 and 2003.

Industry	1998	2003	Change 1998-2003	Self-employed couples working together in 2003	
	'000	'000	%	'000	%
Industry	2,425.2	2,412.7	-0.5	199.8	8.3
Agriculture	296.3	219.2	-26.0	37.5	17.1
Forestry, fishing, mining, oil and gas	50.5	50.7	0.4	5.6	11.0
Construction	251.2	287.6	14.5	16.7	5.8
Manufacturing	113.3	89.8	-20.7	9.4	10.5
Trade	325.8	301.2	-7.6	37.8	12.5
Transportation and warehousing	126.0	138.1	9.6	8.3	6.0
Finance, insurance, real estate and leasing	128.2	147.5	15.1	12.0	8.1
Professional, scientific and technical	323.3	346.7	7.2	20.8	6.0
Business, building and other support	126.4	143.6	13.6	8.4	5.8
Health care and social assistance	212.6	202.7	-4.7	8.5	4.2
Information, culture and recreation	93.1	109.0	17.1	5.8	5.3
Accommodation and food services	102.7	100.9	-1.8	15.6	15.5
Other services	229.9	226.3	-1.6	11.5	5.1

Source: Labour Force Survey, 1998 and 2003

The original article, "Working together—self-employed couples," by Katherine Marshall appeared in the Winter 1999 issue (vol. 11, no. 4) of Perspectives on Labour and Income. For more information, please refer to the article (www.statcan.ca/english/studies/75-001/archive/1999/pear1999011004s4a01.pdf).

Comparison of income estimates

Personal and household income estimates are produced by several statistical programs at Statistics Canada. Many differences exist among programs including sample size, methodology, and particularly survey questions or source of the data. Studying these differences is an initial step in developing standard income questions and processing specifications that could be used by any survey. Such measures will increase the quality, consistency and comparability of household income data.

Surveys/programs analyzed for the reference year 2000 were:

- Survey of Labour and Income Dynamics (SLID)
- Census of Population
- Survey of Household Spending (SHS)
- Canadian Community Health Survey (CCHS)
- General Social Survey (GSS)
- National Population Health Survey (NPHS)
- T1FF administrative tax data file

For better comparison, a common universe was created, resulting in the following exclusions where possible:

- population less than 16 years of age
- residents of the territories
- military personnel living on a base
- institutional residents
- residents of Indian reserves
- residents of collective dwellings

Although an attempt was made to standardize survey universes, identifying all records to exclude was not always possible. However, the discrepancies should not be enough to affect comparability. Also, the Census of Population and the T1FF files do not cover the complete population (Census non-respondents and some persons not filing tax returns are excluded.)

Approaches to data collection

- Respondents provide amounts received from the various income sources listed. Since information is collected for all household members, totals for the individual and the household are obtained by summing all amounts to the appropriate level (SLID, Census of Population, SHS, although the number of items in each list varies according to the survey).
- Respondents indicate which of the income sources listed is the major source of household income. Also, total household income and total personal income are

collected. Data is collected for only one person per household. If an amount is not known, then a 'branching' technique is used to get an income range (CCHS, NPHS, GSS).

- Administrative data files are used (T1FF).

Results

Although more detailed tables were produced, the focus is on macro-level comparisons of total income at the person and household levels, as this can be done from all surveys (except that the T1FF cannot provide household data).

Mean and median values are not greatly different across the sources. Groupings of mean values exist at both the person and household levels. At the person level, SLID, Census and SHS mean values are lower than CCHS, GSS and NPHS. The T1FF falls between. At the household level, again a grouping of surveys occurs. SLID, Census and SHS produce similar estimates, which are higher than those for CCHS, GSS and NPHS.

Aggregate values have a large range across surveys, with greater differences between values at the household level. At the person level, CCHS, GSS and NPHS have similar aggregate values—higher than the values for SLID, Census, SHS and T1FF, which are comparable. At the household level, CCHS and NPHS have similar values—lower than values for SLID, Census, SHS and GSS.

In terms of population counts, several surveys have similar figures, but there is still variability between surveys. However, benchmarking to population totals, which occurs for some surveys and not for others, greatly explains differences between population counts.

Once adjusted for non-response, 'with income' percentage counts (that is, the percentage with non-zero income) are very similar and fall within a small range across all surveys at the person level. At the household level, estimates are extremely similar and fall within a narrower band than at the population level.

Percentiles tend to fluctuate more towards the top of the percentile distribution. Again a grouping of SLID, Census, SHS and T1FF with lower percentile values, and CCHS, GSS and NPHS with higher values occurs at the person level. At the household level, percentiles are quite similar across surveys at the lower ranges, with variability increasing towards the top of the percentile ranges.

Total individual income, 2000

	SLID	Census	SHS	CCHS	GSS	NPHS	T1FF
				'000			
Population	24,100	23,300	24,200	24,100	24,600	23,100	23,600
				%			
With income	96.5	96.2	93.0	94.3	87.2	95.6	92.5
Without income	3.5	3.8	7.0	5.7	12.8	4.4	7.5
Missing values	...	...	...	15.5	31.6	15.5	...
Aggregate income ('000,000)	689,400	670,000	651,100	\$ 734,000	718,500	729,800	671,800
Mean income (with income)	29,700	29,900	28,900	32,200	33,500	33,000	31,000
5th percentile	1,800	1,200	2,000	3,000	4,000	3,600	2,000
10th percentile	4,600	3,600	4,400	6,000	7,000	6,000	5,000
25th percentile	11,000	10,500	10,200	12,000	14,000	13,000	11,000
50th percentile	22,600	22,300	21,300	25,000	28,000	25,000	22,000
75th percentile	40,000	40,000	38,700	42,000	45,000	43,000	39,000
90th percentile	60,000	60,000	60,000	60,000	63,000	65,000	61,000
95th percentile	73,500	76,000	74,000	80,000	80,000	80,000	77,000

Sources: Survey of Labour and Income Dynamics; Census of Population; Survey of Household Spending; Canadian Community Health Survey; General Social Survey; National Population Health Survey; T1FF administrative tax data file.

Total household income, 2000

	SLID	Census	SHS	CCHS	GSS	NPHS
				'000		
Population	11,800	11,500	11,700	10,500	12,400	10,400
				%		
With income	100.0	99.8	99.7	99.5	98.9	99.6
Without income	0.0	0.2	0.3	0.5	1.1	0.4
Missing values	...	...	...	20.3	33.7	20.9
Aggregate income ('000,000)	689,400	670,200	651,300	\$ 541,500	672,500	529,200
Mean income (with income)	58,300	58,400	56,900	51,900	54,700	50,900
5th percentile	10,400	8,100	11,300	10,000	12,500	10,000
10th percentile	14,300	12,900	14,500	12,000	12,500	12,000
25th percentile	26,300	24,800	25,000	24,000	25,000	23,000
50th percentile	47,700	46,700	46,100	40,800	45,000	40,000
75th percentile	76,600	76,200	74,000	70,000	70,000	70,000
90th percentile	109,300	110,700	106,400	100,000	144,000	100,000
95th percentile	135,200	139,200	134,600	120,000	144,000	120,000

Sources: Survey of Labour and Income Dynamics; Census of Population; Survey of Household Spending; Canadian Community Health Survey; General Social Survey; National Population Health Survey

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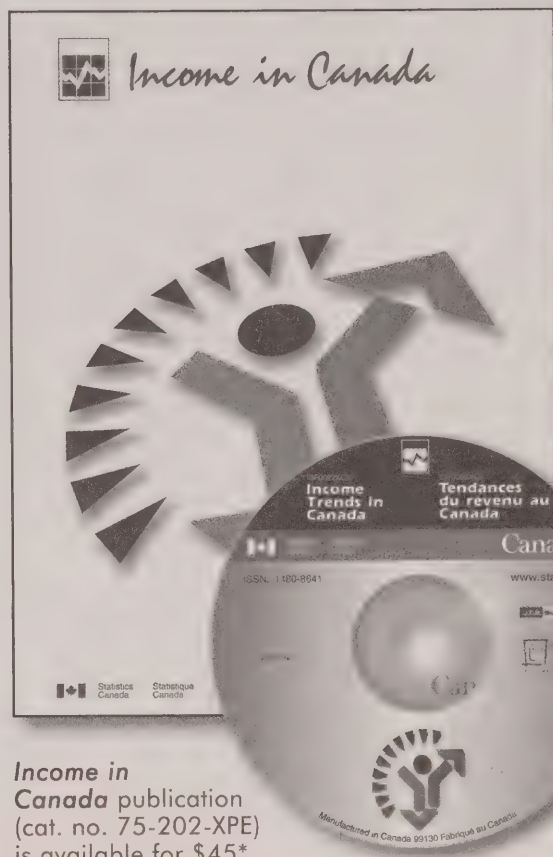
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